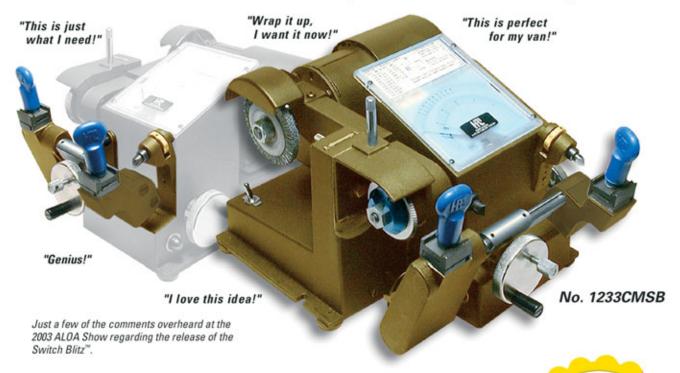


NEW FROM HPC!

No, it's not a Blitz™ Machine! It's Switch Blitz™ the

2 Machines in 1 - Cut by Code and Duplicate!



The new Switch Blitz[™] combines the best of both worlds. It's a Blitz[™] code machine combined with a semi-automatic duplicator. Now you can have two world-class key machines in the bench space of one! Easily switch from code cutting to duplication and back again. The cutter head pivots to cut high security angle cuts by code. With optional adapters the Switch Blitz[™] can cut tubular and Tibbe keys effortlessly. It uses the same code cards as your Blitz[™] and 1200CM.

· If you can't decide whether to buy a code machine or a duplicator...

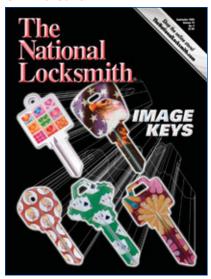
· If you only have space for one key machine...

If you love the Blitz[™], but really need a duplicator...

The Switch Blitz™ is the machine for you!



On The Cover...



The hottest thing in key blanks to hit the market in years are the image keys by Klinky Keys, Klassy Keys, Jet Hardware, Andrews Wholesale and Kaba Ilco.

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National Publishing Company
The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlet, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$46.00 per year in the USA: \$58.00 per year in Canada; \$72.00 in all other countries. Single copies \$700 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861.
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September 2003 • Vol. 74, No. 9

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The World's **Most Complete** Shipped In 24 Hours Stock Program



"THE ADVANTAGE PLUS"

100 years ago National Lock began making quality cabinet locks and in 1968 founded the STOCK LOCKS® program, offering pin tumbler and plated disc tumbler cabinet locks plus a complete line of mail box locks.

With the addition of Fort Lock in 1998 the program was expanded to include STS capped single and double bitted disc tumbler locks and showcase locks.

With the addition of Timberline Lock in 1999 came a complete offering of small diameter, core removable replacement wood furniture locks and mechanisms.

With the addition of Chicago Lock in 2000 the popular ACE® tubular lock products were added to the STOCK LOCKS program.



Poly bags are color coded by company and bar coded. Multiple finishes available in stock.

Together, under the CompX Security Products' umbrella, we offer over 1500 stock keeping units and represent 252 years of cabinet lock manufacturing experience beginning in 1903.

STOCK LOCKS is the broadest coordinated program of cabinet locks in the world, and you can insist on the STOCK LOCKS brand for your security needs.

We were there for you then — and we're here for you now!







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COMMENTARY

Locksmith: Lock Thyself!

This story comes to us via the Associated Press on July 23, 2003. Let's read the story then talk about it.

Burglar Breaks Into W.Va. Locksmith Shop

CHARLES TOWN, W.Va. - A locksmith's lock apparently wasn't too tough for a burglar to bust.

A thief broke into the Charles Town Lock & Key store over the weekend and stole keymaking equipment, master keys and a set of key codes with about 50 corresponding business names, Charles Town Police said.

Master key systems are used by businesses to create keys that give personnel access to restricted areas, locksmith Aaron Greenburg said. He said residential locks were not affected.

The burglar has "got to be somebody who knows about locksmithing, because they knew exactly what to take," said owner Marylou Hill.

Store employees are warning affected businesses of heightened security risks.

"They're all going to have to be rekeyed," Greenburg said.

This is a pretty nasty little issue discussed in the article. First, we do feel bad for the locksmith business involved. We understand how bad this feels since *The National Locksmith* was targeted a couple of years ago in an attempted burglary. The only reason that attempt was foiled is that yours truly walked in on the middle of it.

However, that experience caused us to reevaluate our own security here. Having a burglary will do that to you. It's a wake up call in the slap-in-the-face style. As locksmiths, we've all seen how people fail to upgrade their security until AFTER the horse is already out the barn door.

But now is the time to examine whether or not our own business and vehicles are more vulnerable than they should be. In our case, we did have good locks and an alarm. However, there were a couple of weaknesses we were aware of, but which did not much trouble us.

They DID trouble us after a fairly professional attempt was made though. The fact is, there are some criminals out there who find a locksmith business to be an especially tempting target. That's because we have tools, machines and records of interest to the bad guys.

Here are a couple of suggestions. Don't put ALL the good locks on customers' doors. Save a couple for yourself. Install anti-wrench cylinder guards. Alarm your location. Install a radio back up. Secure windows. Light the back door at night.

Do these suggestions seem familiar? You probably repeat them twenty times a day to your clients. But have you followed them yourself? Finally, any records of codes, or copies of keys that you keep for clients are a

huge liability for you. Any and all such materials should be stored in a rated safe and locked up when you're not present.

You could certainly be sued if someone does harm to your customer using material stolen from you, particularly if you have not used reasonable care to protect them. So locksmith, LOCK THYSELF!

Man Goldburg

Marc Goldberg
Publisher

Have questions? Want free technical help? Free Locksmith Forums!

www.TheNationalLocksmith.com



Price Is No Object!

ow many times have you made a decision on a purchase based solely on the price, only to regret that decision long after your frugal purchase was made? I'd venture to say that most of you have at one time or another. I know I have more times than I'd like to admit.

You see, I was raised in an extremely conservative family and those ingrained traits run deep. When I was a kid, you didn't make purchases just because you *wanted* something, you made purchases because you *needed* something. And, you didn't pay a lot for something you *needed* and *liked*, when you could pay a little for something *similar*, which you were sure *not* to like.

You never left a room without turning off the lights; never left the table without cleaning off your plate; never purchased a gallon of milk from across the street when it was cheaper by a penny six blocks away; never purchased a gallon of gas from across the street when it was always cheaper by a penny six miles away; and you never took a shower when the whole family could bathe in one tub full of water!

Does that sound familiar to any of you? If so, you were raised just as conservatively, and may still be to this day. For me, that was then, and a good while later, but it is no longer now.

I will now quite often make a purchase just because I want something. If I need something, more often that not I will purchase something I like, rather than something similar just because it is less expensive, but usually far less gratifying.

I still turn off the lights before leaving a room, but I don't always clean my plate. I purchase milk from the nearest grocery store a few blocks away, and purchase gas at the local station a couple of blocks away, which just happens to usually be the least expensive. And I can't even remember the last time I sat in a tub full of water.

I have learned through trial and error, or rather through triumphs and disasters, that there is often a bigger price to be paid for being frugal.

Many, many years ago I made a new car purchase, and in my zeal to be frugal, I purchased it without power steering, power brakes, power windows, power door locks, a cruise control, power seats, or air conditioning. But, it did have the most important thing of all: an AM/FM radio! Yes, it got me where I wanted to go, and yes, it was inexpensive to operate, but it always felt like a box with four wheels, powered by a 4-cylinder (gas saving) thing that GM tried to pass off as an engine. It was better than walking or standing on the street corner waiting for a bus, but I hated that car for as long as I owned it.

A few years ago I bought my wife a Toyota Avalon XLS. I purchased it with leather interior and every other factory option available. Most importantly, an AM/FM surround sound radio with cassette. I think I love and appreciate that vehicle more than my wife does. It's a guy thing.

Granted, I could have purchased a small farm in rural Wyoming for the same price, but what would I rather be doing? Driving down the road on a sun drenched day in a terrific vehicle, wearing my cool sun glasses with the sun roof open, a breeze flowing through my hair, the windows down, air conditioning on, one arm hanging out the

window, the other hand on my cell phone (that's now the official driving position), and the radio blaring Sammy Hagar's "I can't drive 55"; or, waking up at 5 a.m. to milk the cows and feed the chicken?

I'll be seeing you on Route 66.

There are times when it pays to be frugal, but there are certainly others when *Price* is No Object!

ПЛL

DregManzo

Greg Mango Editor

KWIKSET ROUND POCKET DOOR LOCK

IS THE HOLE STORY

PREPPING A DOOR for a traditional

notched pocket door lock can be a tricky and timeconsuming process. Kwikset passage and privacy pocket door hardware is easily installed into a pre-bored standard 2 1/8" size door hole.



INSTALLATION IS EASY

The Round Pocket Door Lock installs up to six times faster than notch design locks. Eliminating the need to notch the door reduces installation time and maintains the door warranty.



RELIABILITY AND STYLE

The Round Pocket Door Lock privacy mechanism features a unique locking clasp mechanism, which effortlessly locks into a reinforced brace in the door's frame. Its superior styling includes a large privacy turn-piece and deep cups for easy access. The Round Pocket Door Lock is available in eight finishes, including new 10B (Oil Rubbed Bronze) and 26D (Satin Chrome).

NO MORE NOTCHING!







Circle 230 on Rapid Reply

ROUND POCKET DOOR LOCK BY MAIL

FREE

The FIRST 1,000 LOCKSMITHS who send this ad completed with name, company name, address, city, state, phone and e-mail address will receive our

ROUND POCKET DOOR LOCK for FREE! Requests must be

postmarked by 12/31/2003 and become the sole property of Kwikset.

Please send requests to: Kwikset Locksmith Giveaway 19701 DaVinci Lake Forest, CA 92610

Please	send	Round	Pocket	Door	Lock
Planca	cond	literate	iro on k	wike	ıt.

Name Company Name

City State Zip

Address

Phone



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Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

A Big Winner

I wanted to thank you folks at *The National Locksmith* for all the great articles you put out every month, and for the effort you put into your magazine. I won a prize for a Technitip I submitted last month and had received a monthly prize before that for a different tip I submitted, plus I won a yearend prize that makes three prizes in less than a year!

Thank you very much. It truly is a pleasure to read your magazine every month.

Mehdi Zahedi E-Mail

To The National Locksmith Gang

Thanks for the kind letter regarding a recent tech tip I submitted. The brand new

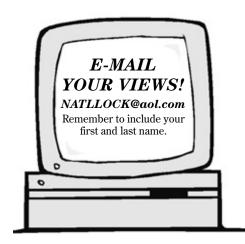
The National Locksmith 1533 Burgundy Parkway Streamwood, IL 60107 Attn: Editor 4440 S&G deposit box lock I received as a prize has become an instant keepsake and will soon be the heart of a small security chest I am building.

Best wishes,

Fritz Ackerman Bellville, OH

I Always Learned Something New

Thank you for the reminder concerning my subscription. After closing my business in California and moving to Arizona over two years ago, I have not stayed active in the locksmithing trade. Once the Locksmith Ledger changed hands, I did not renew my subscription. I continued to subscribe to The National Locksmith, as I wasn't sure if I would get back into locksmithing after our move or not. As it has almost been two and a half years since we moved to our new home in Arizona and I am still retired. I have decided to let my subscription expire. In the twenty plus years that I have subscribed to The National Locksmith, I have enjoyed reading your magazine and visiting with you and your staff at the ALOA Conventions I have attended. I was very active with the California Locksmith



Association, having held both chapter and state officer positions for most of my twenty-five years in locksmithing.

I guess all of the writers I will miss most other than the editorials is Sara's "The Lighter Side."

Thanks for all the input and information *The National Locksmith* provided over the years. Although I spent over a thousand hours in classes all over the country in the past twenty-five years I always learned something new each month from your magazine or one of your many safe or other books.

Sincerely,

Tony Harris, CML Arizona

 Π



Popular "Card Type" design, simple to operate.

Ready for use; supplied with 120 code cards, 2 cutters, & accessories.

Compatible; code cards and cutters work with HPC code machines & vise versa.

SECURITY

DROP IN FOR TOOLS, TECHNOLOGY & EQUIPMENT



Arrow Lock's New Series of Door Closers And Mortise Locks

Arrow Lock introduced two new lines of door closers and an updated line of mortise locks. The 5000 Series door closer is a surface applied door control that is adjustable for spring sizes one through six. The 5000 Series Closer, which replaces Series 6000 and 7000, is available in a wide range of applications.

The compact 900 series surface applied door closer, which replaces the 1000 Series, comes in two models. The 914 is adjustable for sizes one through four, and the 936 adjust for sizes three through six. Both the 5000 Series and the 900 Series are certified to meet ANSI A156.4 Grade 1 requirements, as well as standards for ANSI A156.13 Series 1000, Grade 1.

Jet Unveils Simpson's Key Blanks

The Simpson's family is the newest licensed line in Jet Hardware's Flip Series key blank line. Keys are available in most popular KW1 and SC1



blanks. Jet's introductory offer includes a free display rack and a large Simpson's key sign.

Olympus Lock Has A New Lock Addition

Olympus Lock, Inc. announces the addition of the newest member in its line of innovative pin tumbler cabinet locks—the new Olympus 4-Way Reversible Latch Lock cabinet door and drawer locks on National D4291 and CCL R1 keyways. This innovative product is easily reversible in the field and includes Olympus Lock's patented easy rekeyability features.



In the past, because of the way latch locks function, you would know the handing of the particular application—for doors, right hand or left hand: for drawers, vertical or inverted prior to installation. Now with the new Olympus 4-Way Reversible Latch Lock it doesn't matter. One lock can be easily changed to fit anyone of the four handings. This means as a distributor or a locksmith, you have a more versatile inventory and you will always have the right lock for the job.

The new Olympus 4-Way Reversible Latch lock uses the same case size as our standard #100, #200, #500 and #600 deadbolt cabinet locks and includes a full 1/4" latch projection. The new latch locks may be purchased in either US26D or US4 finishes

and are available with the same keying as our other National D4291 and CCL R1 keyway locks.

Promagnet.net

How many times have you thumbed through the phone book trying to remember the name of a business?

You never want a prospective client looking in the phone book! They may call the wrong business and never know it!

My name is Desiree Joyner, owner of Promagnet.net. I strive to make magnets at a price that every business owner can afford. I will work with you to get the design just the way YOU want it. My magnets are high quality with many shapes and colors available. There are no hidden fees or set up charges and turn around time is fast, about 2-1/2 weeks.



Put your marketing and advertising dollars where you will get results and repeat business. Magnets are a great advertising tool and they actually increase sales!

Kaba-Ilco Introduces the Universal II Code Machine

Unveiled at ALOA, the Kaba Ilco Universal II Code Machine is supplied with an up-to-date selection of 120 data cards which cover a broad range of commercial, residential, and automotive lock products, including newer applications.

Operation of the machine



is essentially the same as for existing machines of its type currently on the market. The Universal II, however, does incorporate several important new features.

The Dial Depth
Adjustment system eliminates
guesswork and reduced the
time required to perform this
function. A graduated dial
allows the operator to "dial
in" the amount of depth
adjustment desired when
calibrating the machine.

Most Universal II code cards incorporate special space and depth markings that are designed to let the operator "center up" the machine's indicator needle quickly and precisely. Also, many cards include graphic and instructional detail on the reverse side as additional insurance against creating a mis-cut key.

HPC's Upgraded CodeSource™ Plus is 8 Programs in 1



Complete Code Retrieval



Detailed Depth & Space Information



Search by Bitting









Comprehensive Customer Database



Key Blank Cross Reference



Code Card Printing









Custom Codes





Car Opening Information









(CS-CD) CodeSource™ Plus (CS-CDLITE) CodeSource™ Lite (CSLS-CD) Lockshop Codes only (CSPL-CD) Padlock Codes only (CSVH-CD) Vehicle Codes only

Desktop PC

Laptop PC

Other versions of CodeSource" are available for the HP Jornada hand-held computer, Pocket PCs and Palm Devices.



Hand-Held PC (CS-CECD)



Pocket PC (CS-POCKET)

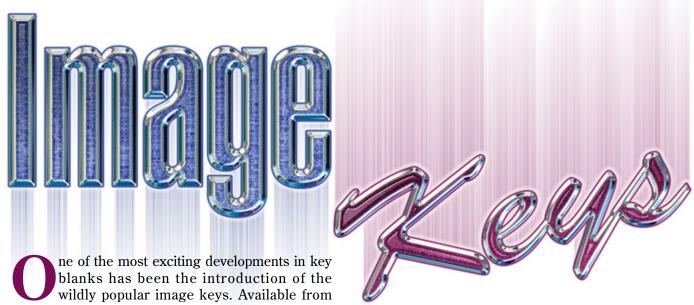


Palm Device (CS-PALM)

Computers sold separately.



HPC, Inc. 3999 N. 25th Avenue Schiller Park, IL 60176 USA Tel: 847.671.6280 Fax: 847.671.6343 www.hpcworld.com



blanks has been the introduction of the wildly popular image keys. Available from several manufacturers all providing their own unique line of identifiable key blank offerings, these key are the new rage.

Following is a list of five key blank suppliers including available keyways, minimum order requirements and pricing. Hundreds of image keys in numerous keyways are available from these suppliers. Contact your favorite distributor or manufacturer for their offerings

Klassy Keys American Fighting Forces Collection

<u>Name</u>	<u>Keyway</u>	<u>Minimum</u>	<u>Price</u>
Eagle:	SC1 & KW1/10	100 Pieces	\$4.95
Marine:	SC1 & KW1/10	100 Pieces	\$4.95
Army:	SC1 & KW1/10	100 Pieces	\$4.95
Navy:	SC1 & KW1/10	100 Pieces	\$4.95
P.O.W.	SC1 & KW1/10	100 Pieces	\$4.95

Portions of the proceeds from this collection are being donated to the P.O.W. network.

www.pownetwork.org

Klinky "Facts of Life "Patterned Keys

Pattern Name: "The Facts of Life"

Number of Patterns Available: Over 100

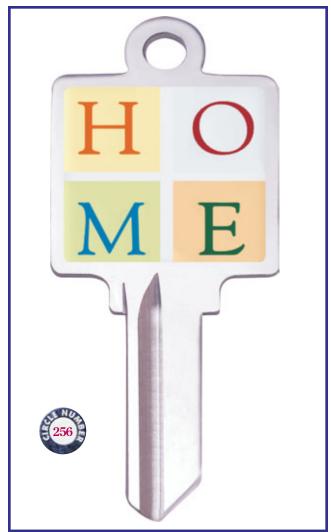
Keyways Available: Kwikset/Weiser & Schlage/Baldwin (KW1/WR5 & SC1/SC10)

Suggested Retail: \$3.99

Imagine everything customers want in a fun, fashionable, and easy to identify key blank, plus a surprisingly comfortable silky-smooth touch. Klinky, the stylish new key blank exclusive to The Klinky Manufacturing Company, combines beauty and



Klassy Keys American Fighting Forces Collection.



Klinky "Facts of Life "Patterned Keys.

elegance with pleasure and delight. Klinky's upscale look and comforting touch fulfills your customer's every desire and exceeds their every expectation all for about the same price as ordinary colorful keys!

Now, more customers who enjoy style, and comfort have a reason to pay extra for a designer key. Also, Klinky's unique design allows for more than just general patterns like ordinary color keys. It's memorable images and sayings compliment the owner's uniqueness, and hint to friends, family, and co-workers, a tiny clue about themselves. The simple elegance of a Klinky, set on an attractive Klinky display, will enhance your business image and sales. Choose from a wide assortment of Klinky designs for your store today!

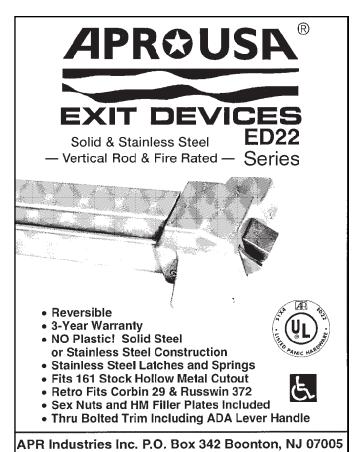
Kaba Ilco Personali-Keys

Automotive Personali-Keys

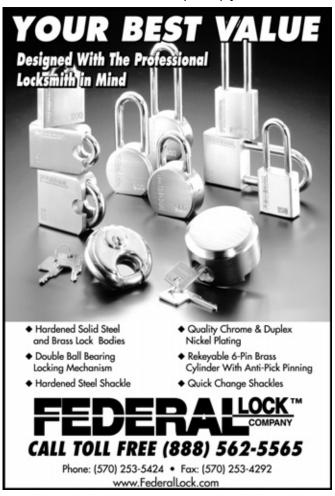
Keyways Available: B89-P, DA31-P, DA34-P, H67-

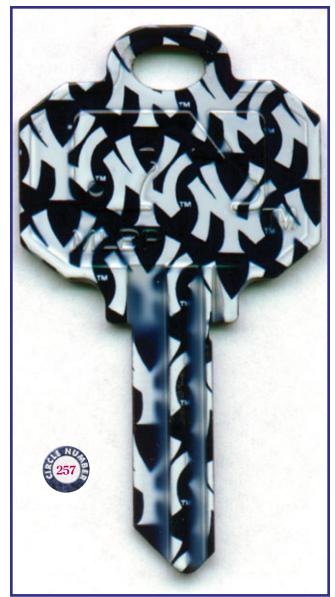
P, H75-P, HD103-P, TR47-P, Y159-P **Packaged:** 5/polybag, 25/box

Sugg. Retail: \$3.99



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Kaba Ilco Personali-Keys.

Personali-Keys

Keyways Available: KW1, KW10, SC1, WR5

Packaged: 10/polybag, 50/box

Sugg. Retail: \$2.99

TeamKeys

Keyways Available: KW1, SC1 **Packaged:** 5/polybag, 50/box

Sugg. Retail: \$4.99

Collegiate Personali-Keys

Keyways Available: KW1, SC1 **Packaged:** 10/polybag, 50/box

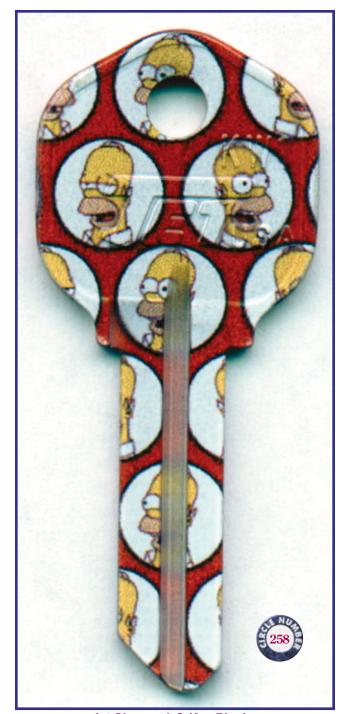
Sugg. Retail: \$3.99

Animal Print Personali-Keys

Keyways Available: KW1, KW10, SC1, WR5

Packaged: 10/polybag, 50/box

Sugg. Retail: \$2.99



Jet Simpson's® Key Blanks.

Jet Introduces Simpson's® Key Blanks

Pattern Name: Simpson's® Flip Series Groovy Keys

Keyways Available: KW1, SC1

Minimum Order: 25 Minimum Assortment (5 of

each character)

At the discretion of wholesaler, broken boxes may be available.

Suggested Retail Cost: \$2.95 to \$4.95 per blank.

Jet reports that many locksmiths report increased sales at higher prices.



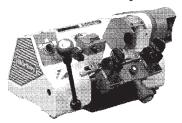
Andrew's Wholesale Hardware Keyblanks.

Andrew's Wholesale Hardware

Name:	Keyway	Min. Order	Price
Shamrock	KW1, SC1, WR1, M	[1 5	\$2.30
Cards	KW1, SC1, WR1, M	[1 5	\$2.30
Race Flag	KW1, SC1, WR1, M	[1 5	\$2.30
Dice	KW1, SC1, WR1, M	[1 5	\$2.30

TIJL

All-new Börkey Rexa 2000 PLUS



Built to last for years of dependable service and highvolume key cutting! NEW 4-way jaws are precision ground for easy gripping of all cylinder keys. Comes with wire brush.

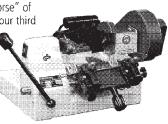
Heavy-duty and ACCURATE!

The famous Börkey Rexa 3

Established as the "workhorse" of key machines. We are into our third decade of selling and servicing Rexa machines.

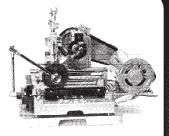
Fast and accurate, a great choice and a great key machine!

Just ask the locksmith who owns one!



Steel King

Cuts all types of bit & barrel keys and it does a great job on safe deposit & steel padlock keys! Long keys are not a problem and the Steel King cuts even double-bitted safe keys with ease.



You'll wonder how you ever got along without it!

DiMark International

WHERE IT'S LOCKSMITH TO LOCKSMITH

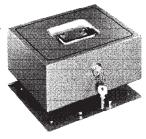
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Visit us at www.dimarkinternational.com

Mitey-Tite Security Box

The unique lock-down plate offers your customers a higher standard in a security box—more secure than some "safes"! Available in three sizes. We have many different models of cash boxes and key storage systems, too.



Our customers tell us that our catalog is "FUN!" It's available for a meager pittance to cover postage. (Meager pittance is refundable with your next order.) Call today! We accept all four major credit cards. Introducing The Tools That Will Change Your Life...&

MAKE YOU MONEY.

A Lockmasters' Exclusive

DUPLICATE EXISTING KEYLESS REMOTES IN SECONDS.

Lockmasters' exclusive Keyless Remote Cloning Tool can copy the original remote's coding and addressing for all buttons and copy them to the classically designed Lockmasters' aftermarket remotes.



Increase your high margin battery sales. Used as a stand alone, the Lockmasters' Remote Checker is an excellent diagnostic tool for checking non-operating or failed remotes. Used as a complete battery display, the Remote Checker is perfect for driving spontaneous point-of-purchase sales of new batteries and remotes.



Going At Full Throttle

PUREAuto Automotive Weekends. Learn how the Keyless Remote business can become a money maker for your business at the next PUREAuto near you, and don't forget about these courses:

Beginning Domestic Automotive Beginning Transponders Advanced Transponders

Hartford, CT Nashville, TN September 6 - 7 October 11 - 12 High Security Automotive Advanced GM Column Service Keyless Remotes



LOCKMASTERS°

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Remote Cloning Tool

ASTERSAnd Safe Experts



Our New & Improved Lever Rig

Hardplate has met its match. The Equalizer™ II's new self-locking quick connect coupler prevents the drill motor from rotating during use...making our Lever Rig the best in the business.

L4100 Sale Price \$299.00 Regular Price \$359.00

Rig without DeWalt Motor

L4100D Sale Price \$399.00 Regular Price \$447.00

Rig with DeWalt Motor



Introducing Our Newest Scope

There's no more hiding. The Lockmasters' Vision 630 Flexible Scope has a great field-of-view at 40°. There is no need for a light source, because it is housed in the handle. Shipped in a hard case and now rigid tubes are available.

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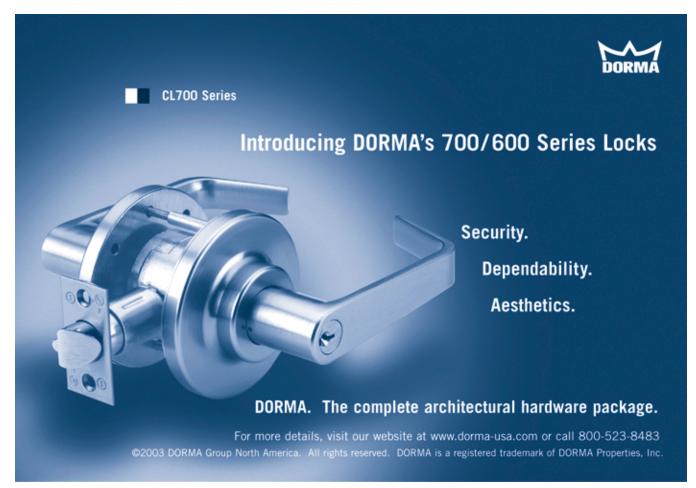
The following is a handy Transponder Key Blank Cross-Reference Chart listing vehicles incorporating transponder technology and the various manufacturers supplying aftermarket transponder key blanks. For some vehicles there is only one manufacturer to choose from, but in most cases there is more than one supplier to choose from.

Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Acura 3.5 RL	1997+			HD106-PT5		HD106-PT5	
Acura CL	1998-1999				H106-N-PHT		
Acura CL	2001+				H106-N-PHT		
Acura CL & TL	1999+			HD106-PT5		HD106-PT5	
Acura Integra	2000-2001			HD106-PT5			
Acura Integra	2000+				H106-N-PHT	HD106-PT5	
Acura MDX	2001+			HD106-PT5	H106-N-PHT	HD106-PT5	
Acura NSX	1997+			HD106-PT5	H106-N-PHT	HD106-PT5	
Acura RL	1996+				H106-N-PHT		
Acura RSX	2002+			HD106-PT5	H106-N-PHT	HD106-PT5	
Audi A4	2000+			HU66AT6			
Audi A6	2000+			HU66AT6			
Audi A6	2002+				HU67-PHT		
Audi A8	2000+			HU66AT6			
Audi Allroad Quattro	2001+			HU66AT6	HU67-PHT		
Audi S4	2000+			HU66AT6			
Audi S4	2002+				HU67-PHT		
Audi TT	2001+			HU66AT6	HU67-PHT		
Buick LeSabre	2000+	690898	LKMB99PTJ		B99-PHT	B99-PT	B99S-PT
Buick LeSabre	2002+			B99-PT			
Buick Park Avenue	1997+	690552		B97-PT5	B97-PHT	B97-PT	B97S-PT
Buick Rainier	2003			B99-PT5			
Buick Rendezvous	2002+			B99-PT5	B99-PHT		
Buick Rendezvous	2001+	690898	LKMB99PTJ			B99-PT	B99S-PT
Cadillac Catera	1997-1998				T10HF54-N-PHT	T10HF54	
Cadillac Caterra	1997-1999			HU46T2			
Cadillac CTS	2000+			B99-PT			
Cadillac DeVille	2000+	690898	LKMB99PTJ	B99-PT5	B99-PHT	B99-PT	B99S-PT
Cadillac Seville	1997+	690552		B99-PT5		B99-PTB99S-PT	

Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Cadillac Seville	1998+		LKMB99PTJ		B99-PHT		
Chevrolet Venture	1999+	690552		B97-PT5	B97-PHT	B97-PT	B97S-PT
Chrysler 300M	1999+	690222			Y160C-PHT		Y160S-PT
Chrysler 300M	1998+			Y160-PT			
Chrysler Cirrus	1999+	690222	LKM160PTJ		Y160C-PHT	Y159-PT	Y160S-PT
Chrysler Cirrus Sedan	1998-2002			Y160-PT			
Chrysler Concord	1998+	690222	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Chrysler LHS	1998+	690222			Y160C-PHT	Y159-PT	Y160S-PT
Chrysler New Yorker	1998-2001			Y160-PT			
Chrysler PT Cruiser	2000+	690222	LKM160PTJ		Y160C-PHT	Y159-PT	Y160S-PT
Chrysler PT Cruiser	2001+			Y160-PT			
Chrysler PT Cruiser LE	2001+			Y160-PT			
Chrysler Sebring 2 Dr	2000-2001			Y160-PT			
Chrysler Sebring 4 Dr	2001+			Y160-PT	Y160C-PHT		
Chrysler Sebring Convertible	1998+	690222		Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Chrysler Sebring Coupe	2001	690226		1100-11	11000-1111	Y163-PT	Y160S-PT
Chrysler Sebring Coupe	2002+	690654				Y164-PT	Y160S-PT
Chrysler Sebring Coupe	2000-2002				MIT11-PHT		
Chrysler Town&Country	2001+	690222	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Daewoo Lanos	2001+			DW05RT5			
Daewoo Lanos	1999-2002				DW47R-N-PHT		
Daewoo Leganza	2001+			DW0RT5			
Daewoo Leganza	1999-2002			2.000.00	DW47-N-PHT		
Daewoo Nubria	2001+			DW04RT5			
Daewoo Nubria	1999-2002			211011110	DW48R-N-PHT		
Dodge Caravan	2001+	599455	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Dakota	2001+	599455	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Durango	2001+	599455	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Intrepid	1998+	599455	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Neon	2000+	690223	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Ram Pick-Up	2002+	599455	LKM160PTJ	Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Stratus	2000+	000400	LKM160PTJ	110011	110001111	110011	1100011
Dodge Stratus 2 Door	2001	599450	LIMITOOT TO		MIT11-PHT	Y163-PT	
Dodge Stratus 2 Door	2002+	690653			WIIII	Y164-PT	
Dodge Stratus 2 Door	2002- 2000-Mid01	030030		Y162-PT		110711	
Dodge Stratus Sedan	1999+	599455		Y160-PT	Y160C-PHT	Y159-PT	Y160S-PT
Dodge Voyager Van	2001+	333400		Y160-PT	11000-1111	1 100-1 1	11000351
Eagle Vision	1998			Y160-PT			
Ford Contour	1998+		LKMH73PTJ	1100-71			
Ford Contour	1998-2000		LINVII I/ JF 1J		H73-PHT		
				U70 DT	11/3-FFI		
Ford Crown Victoria	1997-00	F07000	LIZMUZODEL	H73-PT	UZO DI IT	U70 DT	070
Ford Crown Victoria	1998-2002	597602	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Ford Crown Victoria	2003+	599114			H72-PHT	H84-PT	200
Ford Escape	2000+	691643	LKMH74PTJ			H86-PT	S86
Ford Escape	2001+			H86-PT	1		

Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Ford Escape	2001-2002				H74-PHT		
Ford Excursion	2000+	597602	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Ford Expedition	1998-2001	597602	LKMH72PTJ			H72-PT	S72
Ford Expedition	2002+	599114			H72-PHT	H84-PT	
Ford Expedition	1997-02			H72-PT	H72-PHT		
Ford Explorer	1998-2000	597602	LKMH72PTJ			H72-PT	S72
Ford Explorer	2001+	599114				H84-PT	
Ford Explorer	1998-2001			H72-PT	H72-PHT		
Ford Explorer Sport-Trac	1999-2001			H72-PT			
Ford Explorer Sport-Trac	2001				H72-PHT		
Ford Focus	2000+	691643	LKMH74PTJ	H86-PT	H86-PHT	H86-PT	S86
Ford F-Series Pick-Up	1999+	597602	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Ford F-Series Super Duty	1999+	001002	2.43		H72-PHT		0,1
Ford Heavy Trucks	2000-2002			H72-PT			
Ford Mustang	1996+	597602	LKMH72PTJ			H72-PT	S72
Ford Mustang	1998+			H72-PT			
Ford Mustang (8-Cut)	1996-1997			H72-PT			
Ford Mustang GT/ Cobra (10Cut)	1996			H73-PT	H73-PHT		
Ford Mustang GT/ Cobra (10Cut)	1997			H72-PT			
Ford Ranger Pick-Up	1999-2000	597602	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Ford Ranger Pick-Up	2001+	599114				H84-PT	
Ford Taurus	2000+	599114				H84-PT	
Ford Taurus LX/SHO	1996-1999	597602	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Ford Thunderbird	2001-2002	691643	LKMH74PTJ		H74-PHT	H74-PT	
Ford Thunderbird	2003+	599114				H84-PT	
Ford Thunderbird	2002	000111		H74-PT			
Ford Windstar	1999-2000	597602			H72-PHT	H84-PT	S72
Ford Windstar	2001+	599114			2	H84-PT	0,2
Ford Windstar	1998+	333111	LKMH72PTJ			110111	
Ford Windstar	1998-2000		ERWIN II E	H72-PT			
Honda Accord	1998-2002			HD106-PT5	HD106-N-PHT	HD106-PT5	
Honda Accord	2003+			118100110	HD106-N-PHT	HO01-T5	
Honda Civic	2003			HO01T5	110010011111	HO01-T5	
Honda Civic	2003			HD106-PT5	HD106-N-PHT	HD106-PT5	
Honda CR-V	2001-2002			HO01T5	HD1100-N-PHT	110100-113	
Honda Element	2002+			HO01T5	TID TIOTN*FIII		
Honda Insight	2003			HD106-PT5	HD106-N-PHT	HD106-PT5	
	2000+			HO01T5	HD106-N-PHT	HO01-T5	
Honda Odyssey	1998-2002			HD106-PT5	HD106-N-PHT	HO01-15 HD106-PT5	
Honda Odyssey						UD 100-519	
Honda Proludo	2003			HO01T5	UD106 N DUT	UD106 DT5	
Honda Prelude	1997-2002			HD106-PT5	HD106-N-PHT	HD106-PT5	
Honda S2000	2000+			HD106-PT5	HD106-N-PHT	HD106-PT5	
Hyundai Tiburon (Canada Only)	2002			HY022-PT			
Hyundai XG300 (Canada Only)	2002			HY021-PT			

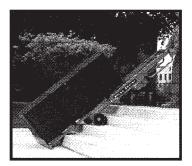
Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Infiniti G20	2000+				DA34-PHT	TKBNS34	
Infiniti G35	2003					TKBNS34	
Infiniti I30	2002+				DA34-PHT		
Infiniti I30	2000-2001				DA34-PHT	TKBNS34	
Infiniti I30 & I35	1999			NSN11T2	DA31-PHT	NSN11-T5	
Infiniti 135	2002+					TKBNS34	
Infiniti M45	2003					TKBNS34	
Infiniti Q45	1997+					TKBNS34	
Infiniti QX4	1999-2002				DA34-PHT		
Infiniti QZ4	1999+					TKBNS34	
Infiniti XF45	2003+					TKBNS34	
Jaguar XJ & XK Series	1998-1999			TBE1T5			
Jeep Cherokee	1998-2001	690504	LKM160PTJ		Y160C-PHT	Y159-PT	Y160S-PT
Jeep Cherokee	1998-2000			Y160-PT			
Jeep Grand Cherokee	1999+	690504	LKM160PTJ			Y159-PT	Y160S-PT
Jeep Grand Cherokee	1998+			Y160-PT	Y160C-PHT		
Jeep Liberty	2002+	690504			Y160C-PHT	Y159-PT	Y160S-PT
Jeep Liberty	2001+			Y160-PT			
Jeep Wrangler	1998+	690504		Y160-PT	Y160C-PHT	Y159-PT	
Jeep Wrangler	2002+		LKM160PTJ				
Lexus ES300	2002+			TOY48BT4	TR48-PHT		
Lexus ES300	1998-2001			TOY40BT4	TR49-PHT		
Lexus GS300/400/430	1998+			TOY48BT4	TR48-PHT		



Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Lexus IS300	2001+		_	TOY48BT4	TR48-PHT		
Lexus LS400	1997			TOY48BT4	TR49-PHT		
Lexus LS400	1998+			TOY40BT4	TR48-PHT		
Lexus LS430	2001+				TR48-PHT		
Lexus LX450	1998-2001			TOY40BT4			
Lexus LX470	1999-2001			TOY40BT4			
Lexus LX470	1998+				TR48-PHT		
Lexus RX300	1999+			TOY48BT4	TR48-PHT		
Lexus SC300	1998-2000				TR49-PHT		
Lexus SC300/400/430	2002+			TOY48BT4	TR48-PHT		
Lexus SC300/400/430	1998-2001			TOY40BT4			
Lexus SC400	1998-2000				TR49-PHT		
Lincoln LS	2000+				H74-PHT		
Lincoln Aviator	2003+	691259	LKMH00PTJ			H84-PT	
Lincoln Blackwood	2002	598333	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Lincoln Continental	1998-2002	598333	LKMH72PTJ	111211	H72-PHT	H72-PT	S72
Lincoln Continental	1998-2001	330000	LINWIII/ZI 10	H72-PT	1172-1111	1112-1 1	072
Lincoln LS	1999-2002	598333	LKMH74PTJ	H74-PT		H74-PT	
Lincoln LS	2003+	691259	LKMH00PTJ	П/4-Г І		H84-PT	
			LKIVIHOUP 13				
Lincoln Mark VIII	1997-1998	691641	LIZMUZODT I		LIZO DLIT	H80-PT	C70
Lincoln Navigator	1997-2002	598333	LKMH72PTJ		H72-PHT	H72-PT	S72
Lincoln Navigator	2003+	691259	LKMH00PTJ	LIEG DE	H72-PHT	H84-PT	
Lincoln Navigator	1998-2002		LIGHTOODT I	H72-PT	LIES BUT		
Lincoln Towncar	2002+		LKMH00PTJ		H72-PHT		
Lincoln Towncar	1998-2002		LKMH72PTJ		H72-PHT		
Lincoln Towncar	1998-2001			H72-PT			
Mazda 626ES/LX-V6	1998-1999			MAZ24RT5	MAZ24-N-PHT		
Mazda 626EX	2000+				MAZ24-N-PHT		
Mazda 626LX	2000+				MAZ24-N-PHT		
Mazda B Series Pick-Up	1999-2000	598333	LKMH72PTJ		H72-PHT	H72-PT	
Mazda B Series Pick-Up	2001+	599114				H84-PT	
Mazda Pickups 3000/4000	1999-2002			H72-PT			
Mazda Tribute	2001+	691643	LKMH74PTJ		H74-PHT	H86-PT	
Mercury Cougar	1999-2002	LKMH73PTJ			H73-PHT		
Mercury Grand Marquis	1998-2002	597603	LKMH72PTJ	H72-PT	H72-PHT	H72-PT	S72
Mercury Grand Marquis	2003+	599179	LKMH00PTJ		H72-PHT	H85-PT	
Mercury Marauder	2003+	599179			H72-PHT	H85-PT	
Mercury Mountaineer	1998-2000	597603	LKMH72PTJ		H72-PHT	H72-PT	S72
Mercury Mountaineer	2001+	599179	LKMH00PTJ		H73-PHT	H85-PT	
Mercury Mountaineer	1998-2001			H72-PT			
Mercury Mystique	1998-2002		LKMH73PTJ				
Mercury Mystique	1998-2000				H73-PHT		
Mercury Mystique V6 LS	1997-2002			H73-PT			
Mercury Sable	2000+	599179	LKMH00PTJ			H85-PT	
Mercury Sable EX	1996-1999	597603	LKMH72PTJ			H72-PT	S72
Mercury Sable GS	1999	35.555		H72-PT			5.2
Mercury Sable GS	1998-1999			111/21	H72-PHT		
Microury Jable Go	1000-1000				11/4-1111		

Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Mercury Sable		-					
LS,SE,SHO	1996-1999			H72-PT	H72-PHT		
Mitsubishi Diamante	2000-2001			MIT8-PT	MIT10-PHT	MT8-PT	
Mitsubishi Eclipse	2000-2001			MIT9-PT	MIT11-PHT	MT6-PT	
Mitsubishi Eclipse	2002+					MT8-PT	
Mitsubishi Endeavor	2004					MT9-PT	
Mitsubishi Galant	2000-2001			MIT9-PT	MIT11-PHT	MT6-PT	
Mitsubishi Galant	2002+					MT8-PT	
Mitsubishi Montero	2001				MIT10-PHT		
Mitsubishi Montero & Montero Sport	2000-2001			MIT8-PT			
Mitsubishi Montero & Montero Sport	2001				MIT10-PHT	MT8-PT	
Nissan 350-Z	2003			NI02T			
Nissan Altima	2000+			NI01T	DA34-PHT	TKBNS34	
Nissan Frontier	2002+				DA34-PHT		
Nissan Maxima	2000+			NI02T	DA34-PHT	NSN11-T5	
Nissan Maxima	1999			NSN11T2	DA31-N-PHT	TKBNS34	
Nissan Murano	2003			NI02T		TKBNS34	
Nissan Pathfinder	1999+			NI02T	DA34-PHT	TKBNS34	
Nissan Sentra	2000+			NI02T	DA34-PHT	TKBNS34	
Nissan X-Terra	2003			NI02T			
Nissan X-Terra	2000+					TKBNS34	
Nissan X-Terra	2002+				DA34-PHT		

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Make/Model	Application Years	STRATTEC Key	Lockmasters Key	Kaba Key	Jet Key	Barnes Key	A-1 Key
Oldsmobile Aurora	2000+	690898	LKMB99PTJ	B99-PT5			B99S-PT
Oldsmobile Aurora	2001+				B99-PHT	B99-PT	
Oldsmobile Silhouette	1999+	690552		B97-PT5	B97-PHT	B97-PT	B97S-PT
Plymouth Breeze	2000+		LKM160PTJ				
Plymouth Breeze	2000			Y160-PT			
Plymouth Breeze	1999-2000				Y160C-PHT		
Plymouth Neon	2000			Y160-PT			
Plymouth Neon	2000-2001				Y160C-PHT		
Plymouth Voyager, Grand Voyager	2001			Y160-PT			
Pontiac Aztec	2001+	690898	LKMB99PTJ	B99-PT5	B99-PHT	B99-PT	B99S-PT
Pontiac Bonneville	2000+	690898		B99-PT5	B99-PHT	B99-PT	B99S-PT
Pontiac Grand Prix	2000+	690556		B103-PT5		B92-PT	
Pontiac Grand Prix	2004			PT04-PT5			GMX-367
Pontiac Grand Prix	2000-2002				B103-PHT		
Pontiac Grand Prix	2003				B107-PHT		
Pontiac Montana	1999+	690552		B97-PT5	B97-PHT	B97-PT	B97S-PT
Porsche Boxster	1997-1998			HU66T5			
Saab 9 3, 9 5	1999-2001			YM30T5			
Toyota 4-Runner	1999+			TOY43AT4	TR47-PHT		
Toyota 4-Runner	1999-2002					TOY43-AT4	
Toyota Avalon XL	1998+			TOY43AT4			
Toyota Avalon XLS	1998+			TOY43AT4	TR47-PHT	TOY43-AT4	
Toyota Camry	2002+			TOY43AT4			
Toyota Camry LE	1998+			TOY43AT4	TR47-PHT	TOY43-AT4	
Toyota Camry XLE	1998+			TOY43AT4			
Toyota Celica	2003					TOY43-AT4	
Toyota Highlander	2001+			TOY43AT4	TR47-PHT	TOY43-AT4	
Toyota Highlander LTD	2001+			TOY43AT4			
Toyota Land Cruiser	1999+			TOY43AT4		TOY43-AT4	
Toyota Land Cruiser	1998+				TR47-PHT		
Toyota MR2 Spyder	2001+			TOY57-PT			
Toyota MR2 Spyder	2000+				TR47-PHT		
Toyota Prius	2001+			TOY43AT4	TR47-PHT	TOY43-AT4	
Toyota Sequoia	2001+			TOY43AT4			
Toyota Sequoia	2001-2002					TOY43-AT4	
Toyota Sequoia	1998+				TR47-PHT		
Toyota Sienna Van	1999+			TOY43AT4	TR47-PHT		
Toyota Solara	2002+					TOY43-AT4	
Toyota Solara SE	1999+			TOY43AT4			
Toyota Solara SLE	1999+			TOY43AT4	TR47-PHT		
Volkswagen Beetle	2000+			HU66T6	HU67-PHT		
Volkswagen Cabrio	2000+			HU66T6			
Volkswagen EuroVan	2000+			HU66T6			
Volkswagen Golf	2000+			HU66T6	HU67-PHT		
Volkswagen GTI	2000+				HU67-PHT		
Volkswagen Jetta	2000+			HU66T6	HU67-PHT		
Volkswagen Passat	2000+			HU66T6	HU67-PHT		
Volkswagen W8	2003			HU66T6	1.507 1111		TNL

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by Michael Hyde

n the last installment we covered the ignition lock, trunk lock and glovebox lock. This month we conclude with the door lock and programming procedures.



1. The door lock cylinder is part of the outside door handle.



2. The inside door panel must be removed to service the door lock cylinder.



3. The door panel "door pull" has a trim screw that must be removed. It has a plastic cover on it. Once the fastener is removed the plastic "pull" will have to be lifted out of the door panel.



4. There are two trim screws on the bottom of the door panel that must be removed.



5. The trim ring around the inside door release snaps off.



6. Plastic panel clips secure the door panel also. Unsnap the door panel and remove. Disconnect the wiring for the panel indicator light and window controls.



Part 2

The introduction of the I30 and the Maxima transponder system.



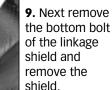


7. Gently peel back the plastic door liner, sometimes called weather liner. Most people who service the inside of the door will just rip the liner up, this is not a good practice and does a disservice to the owner of the vehicle or the future owner.



8. A few parts need to be removed to make removing the lock cylinder easier. First remove the 10mm bolt that secures the linkage connector and also the top bolt for the linkage shield.







10. Remove the bolt on the lower outside edge of the door. This bolt secures the rear window track. The window slides out easily and gives much more access to the lock

Continued on page 32

A good code program is a must for any professional locksmith



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is just that and more...plus it's easy to use!

Using code books or an outdated code package is not the way forward for your business. Changing up to the most comprehensive and easy to use code program available is a move to greater efficiency and improved profitability.

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Nearly 9000 vehicles, manufacturers, models and years are listed so you can search for the exact vehicle to find the key blanks, codes and ASP car lock part numbers. ◆ Pictures of key blanks and key blank profiles. ◆ And of course we have added many more general and auto codes. When you buy InstaCode you get everything. You don't have to buy another program to get add on features such as card printing, bitting search, cutting trees, key blank cross-referencing etc. This one program has it all! Take a look at how InstaCode stacks up against it's competitors with its totally cool range of features. InstaCode is supplied on CD ROM and comes complete with an easy to follow step-by-step instruction manual. InstaCode runs on Windows 95/98/ME/NT/2000 and XP. It requires 32mb of RAM













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Tool

High Tech Tools One Hand Jack Seis





Power Remote Control Jack Set:

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The One Hand Jack Tool is available in two sizes, and is designed to work with the Air Jack and our Long Reach Tools. Just insert the tool between the door and the Frame to create space to insert the Air Jack.



One Hand Jack Set:

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Super Mega Jack Set:

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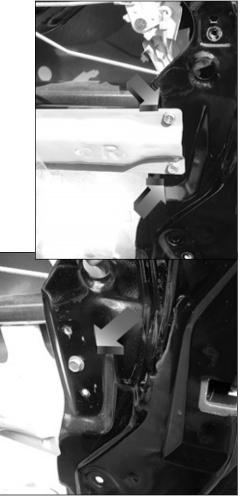


The RCBM is used to unlock vehicles with vertical buttons. Using the One Hand Jack set, unlocking the door is as easy as pulling the control Knob. Works on round and Flat Buttons.

Item # RCBM \$24.95

Circle 217 on Rapid Reply

Continued from page 29



11. The metal door support has to be moved out of the way to gain access to the 10mm bolt underneath that must also be removed.



12. Now that the window track, linkage connector and linkage shield are removed it is real easy to get to the outside handle and lock cylinder. Remove the forward 10mm nut on the backside of the handle.







13. A view of the lock cylinder as it is secured to the handle assembly. Insert a 10mm socket through the door skin and remove the nut. This nut also secures the lock cylinder to the door and handle.



14. The handle can be removed by the disconnecting the remaining linkage rod.



15. The electrical connector is held to the lock cylinder by a single Phillips screw. Remove it.



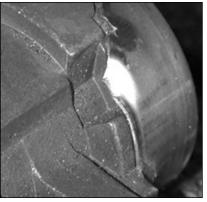
16. A view of the parts removed from the door. This whole procedure for the door only took about 8 minutes.



17. The lock cylinder removed from the car.



18. The door lock tailpiece has a magnet on it, which activates the locks when the key is turned.



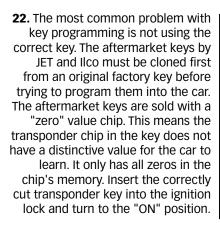
19. The door lock face cap must be re-used. Removing the door lock cylinder face cap can take longer on this car because the cap is much thicker than other face caps.



20. The door lock taken apart.



21. This particular door lock was damaged during a recent break-in attempt. The plug is cracked and the tumblers are all bent up. We replaced the cylinder. There are all 8 tumblers in the door locks.





23. On this model you must use the Infiniti (Nissan) proprietary connector behind the fuse cover on the lower left side of the dash.

Programming New Transponder Keys





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24. The proprietary connector is gray in color and has a 14 pin Male outlet.



25. Here we are using the proven and tested TCL-1 transponder key programming unit from ASP.



26. Select the brand Nissan and press Enter.



27. The TCL-1 confirms you are using the English version of the Nissan software. Press the Enter button to continue past this screen.



28. To determine what Type of Nissan software this car uses, simply check the well written TCL-1 Users Guide.



29. This model uses Type 4 of the Nissan software.

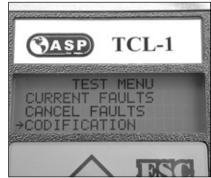


30. At this point the TCL will make attempts to start a communication with the cars computer known as ECU.





31. The TCL has made the necessary connection to the cars computer and is displaying the ID from the ECU. TCL09



32. On this menu you can select different functions that the TCL can perform. You can view Diagnostic Trouble Code also called Faults. The TCL also can clear out the Faults. In this case we are just going to program a new transponder key.



33. A very wise piece of information that is always overlooked for answers is the TCL Users Guide. This screen is reminding us to follow the instructions for a smooth programming job.



34. The TCL is doing its job and Codification (programming) has begun.



35. "Access Ok" means you are done.

Important Note: You must have all existing keys present, if you want them to continue to start the vehicle. All keys are erased during this process and are considered "New" again and must be added back into the Immobilizer system. Once the access is granted, the TCL-1 cuts off communication with the immobilizer and the following process must be used to finish the programming of transponder keys.

If you are programming 1 key and no more:

The key in the ignition is now programmed and there is nothing else to do. Unplug the TCL-1 and start the vehicle.

If you are programming more than 1 key:

The key in the ignition is now partially programmed. Remove the key.

Place your next key in the ignition and turn to "On" for 4-5 seconds. Remove the key.

Repeat this process for each additional key.

Re-insert the first key you started with and turn to "On" for 4-5 seconds. Remove the key. Unplug the TCL-1 and start the vehicle.

Note: You may want to put a piece of tape on the first key to know which key you started with.

Making First Key:

Method #1 - Use Nissan 8-cut Determinator from National Auto Lock to easily decode the door lock without removal. The door lock contains all tumblers necessary for a complete key.

Method #2 - Pop out the glove box cylinder plug for positions 5 through 8 and then impression positions 1 through 4 in the ignition. The ignition tumblers can usually be impressioned easier than the door or trunk.

尾





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Not only the fit and finish are unmatched, but also Fort Knox strives to be the leader in innovations to make home safes stronger, safer and harder to break into. Fort Knox has patented its own rack and pinion locking system. They have also added roller bearings to the hard plate to prevent drilling, clutch drive handles to prevent damage and defeat, drill deflectors to protect locking bolts and floating hard plate to protect the lock.

Fire protection is one thing that is better to have and not need, rather than need and not have. Fort Knox has gone to the added expense of developing, testing and certifying the highest level of fire protection available in a gun safe. Fort Knox's Reinforced Fire Door offers a 1680°-fire protection in 90 minutes, keeping the contents under 350°.

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As our name implies, FRONTIER safes really are as rugged as the Old West. Each FRONTIER safe is constructed using the finest 100% Americanmade steel. In addition, FRONTIER safes feature our exclusive "packed bearings" protection, which creates a virtually impenetrable hard plate barrier between the perpetrator



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GUNVAULT® LONG GUN STORAGE

The new Long Gun Vault features GunVault's patented No-



Eyes® keypad that allows operation in total darkness, an omni-directional spring-loaded door for split-second access to a weapon, and a high tensile strength aluminum alloy case with pry-resistant fittings. The Long Gun Vault includes a motion detector with user-adjustable sensitivity, an audible alarm that is activated by the unit's motion detector, and a Security Sleep Mode that disables the keypad after twenty-four incorrect entries. A manual key lock override allows access if the user forgets his access code and a Tamper Detector tells the owner if someone has input an incorrect access code. The computercontrolled lock accepts three access codes and provides connection for use with an external power supply. The Long Gun Vault also provides the user with an audible low battery warning tone.

The Long Gun Vault comes with a mounting bracket, measures 11.9" long by 8.4" wide by 3.9" high and weighs 9.6 pounds. It will be available mid-March 2003.

Advanced Security Products, dba GunVault, is a leading manufacturer of storage and security products for home and law enforcement, including the MultiVault[™] and MiniVault[™].

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- Easy to program and change your own combination in just seconds!
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- Electronic security lock
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- Two bolts supplied to anchor safe down
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Continued on page 40



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(slightly larger than a mobile phone), yet advances in technology allow them to be almost as powerful as a laptop PC. Pocket InstaCode takes advantage of these new these new technologies by providing the locksmith with a powerful, feature packed and extremely compact solution for code and information retrieval.

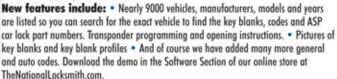
Pocket InstaCode requires a Pocket PC with 64mb RAM running Microsoft Pocket PC2000 or later, Not included.

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InstaCode

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As a special bonus, when you purchase the AutoEdge on CD-ROM, you'll also be enrolled FREE in the National Locksmith Automobile Association (NLAA). You will receive 12 monthly newsletters over the course of the next year. Each one covers an important vehicle from top to bottom.



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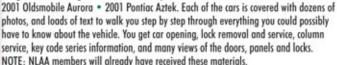
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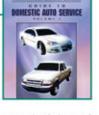
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DOMESTIC AUTO SERVICE





The National Locksmith Guide to

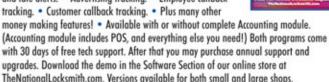
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Continued from page 37

"These are California approved firearms safety devices that meet



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These safes have passed the following tests:

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Constructed of heavy gauge steel, the safe's interior dimensions of 56" high x 14-3/8"wide x 4" deep provides ample storage space for three or four rifles. Safes come with a vinyl lining and padded floor as well as an elastic band, which holds the barrel in place. The unit also has a self-installed shelf, which can be placed above the rifles for further storage. The safe, which has a recessed door with 3-point locking and hidden hinges for increased security, is designed to fit between standard wall studs in the home, a guardhouse, or other location.



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FA1-F54-1054WC FR2-L54G-L1054G H26-127ES-1127ES H27-127DP-1127DP H50 S27-S1167FD H51-P27-1167FD H54-PS23F3-1184FD H60-1190LN HR1-X61FR-1014C IN1-54F-1054F IN3\IN20-X54K-1054K IN8-L548-L10548 IN28-54FN-1054FN IN29-1054UN IN35-1054DL K2-79HK-1079B KW1-54KS-1176 L1-35-1004 L4-35A-1004A M2-92B-1092B M4-U92A-1092V M11-92T-1092H M27/M16-92NR-1092NR NA12-174BN-1069LA NA24-1069LC NA25/NA6-N174D-R1064E RA3-99R-S1970AM RA4-99A-1970AM P01-62-1069 R03-1741-1069N RU4-55P 1011P BU16-57PA-A1011P RU45-57-1D-1011D1 RU46-A57-1D-A1011D1 \$1-48-1009

S3-50-1010 S4-050-1010U S6-049KM-N1007KMA \$16-49KM-N1007KMB S22-043LA-01007LA S22 1/2-43LA-1007LA \$32-48KMR-N1007RMB S69-51SA-L1010N SC1-145-1145 SC4-145A-1145A SC6-307A-1307A SC7-145FS-1145F SC9-145E-A1145E SC10-145F-A1145F SC20-145L-A1145L SC22-307W-1307W SE1-102-1022 SK1-R21EN-R1001EN T3-111E-1141E T7-111GE-1141GE _WE1-133-1123 _WK2-175W-1175N WR3-54WB-1054WB WR4-54WA-A1054WB WRS-54WC-N1054WB XL7-XL16-1180S Y1-14-999 Y1E-E14-999N Y2-14A-999A Y3-14YM-C999 Y4-12GM-998 Y6-7X-997X Y11-7NX-01122 Y12-07NX-01122A Y13-R7NX-01122R Y14-R07NX-01122AR Y54-07E-0997E Y103-07B-01122B

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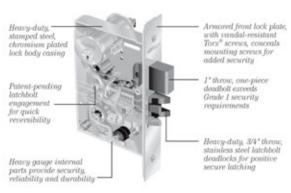
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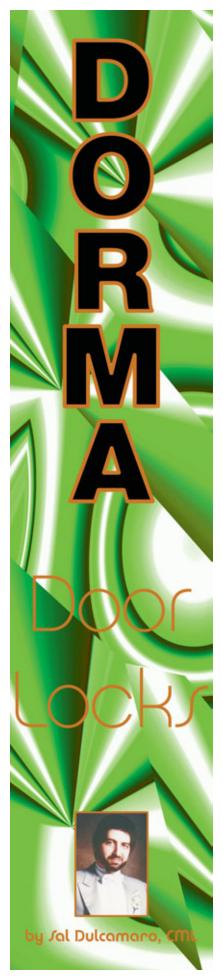




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ORMA, which is best known for its extensive line of door control products, has expanded its product line into a variety of commercial locksets. DORMA now makes mortise locks, grade 1 and grade 2 cylindrical locks (in either lever or knob handles), grade 2 tubular locksets, and grade 1 and grade 2 deadbolt locks. For this article, I was sent samples of the grade 1 and 2 cylindrical locks (lever handle style only) to review in standard and IC lock cylinder designs. DORMA also offers patented key control with KABA Peaks cylinders as an option with the various locksets.

levers on the lock. (See photograph 1.) The LR style was on the outside handle and the LC style was on the inside handle. It was pre-assembled as a demo lock, so I'm guessing that DORMA just wanted to be able to display both lever styles on the same lock.

This particular lock came with a small format IC cylinder, but the DORMA locks are also available in a variety of lock cylinder configurations. Among the more common commercial keyways for the DORMA locks are Schlage, Sargent and Corbin/Russwin. In small format (or Best-style) IC, DORMA has 6-pin and 7-pin configurations with either Best A or B keyways typical, but others are

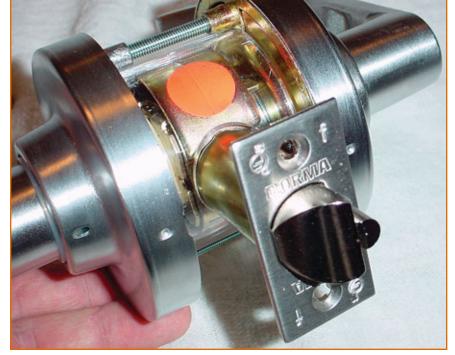


1. A grade 1 lock with two style levers on the lock.

I was sent four locksets, all with lever handles. Two of the locks were grade 1 and two were grade 2. DORMA's grade 1 cylindrical locksets are divided into the CL800 series (lever handle) and CK800 series (knob handle). There are two different lever handle designs. One is LR that has sharper corners along the bends of the lever, and the other is LC that has a more curved shape. One of the two grade 1 locks had both style

available. The non-IC cylinders come as 6-pin. DORMA also has a "DORMA" type cylinder, which is currently a 6-pin Schlage C keyway cylinder with their own bow design key.

There is no "DORMA brand" key control cylinder and keys at this time, but DORMA does offer the option of a KABA Peaks cylinder that will serve that purpose. Peaks cylinders are available in IC and non-IC versions.



2. The typical heavy-duty grade 1 latch.

If you already have cylinders that you wish to install in the locksets, there is the option of "less cylinder" or "less IC cylinder". If you have your own brand of key control or high security cylinder, you may want to choose that option to maintain compatibility with existing door hardware.

The lock is somewhat hefty with the typical heavy-duty grade 1 latch. (See photograph 2.) It installs like many of the other more common brand commercial lever handle locks. The additional mounting screws will require the drilling of a hole above and below the chassis of the lock if you are converting from knob to lever

handle lock or if it is just a new door prep. There is the option to choose a smaller 2-3/4" diameter rose or a larger oversized 3-7/16" diameter rose. The existence (or lack) of a latch guard may affect that choice for rose diameter. The DORMA locks are available in different finishes: seven 605/Bright Brass, 612/Satin Bronze, 613/Dark Oxidized Satin Bronze, 625/Bright Chrome, 626/Satin Chrome, 629/Bright Stainless and 630/Satin Stainless.

Configured with a DORMA style cylinder, this lock with LC style lever handles can be keyed to match locks using a Schlage C keyway. (See photograph 3.)



3. This lock can be keyed to match locks using a Schlage C keyway.





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4. This lock has an entry function.

A view from the other side shows this lock to have an entry function (53). (See photograph 4.) For a brand new product introduction, the DORMA grade 1 cylindrical line has a surprisingly large choice of functions. They are available in the following functions: 01/Dummy Trim One Side, 10/Passage, 30/Patio, 40/Privacy, 53/Entry (shown), 60/Apartment, 70/Classroom, 72/Communicating, 73/Corridor, 77/Classroom Intruder. 80/Storeroom, 80EL/Electrified Fail Safe, 80EU/Electrified Fail Secure, 82/Asylum and 85/Hotel (F93).

The locks will install on doors ranging in thickness from 1-5/8" to 1-7/8". It is factory pre-set for a 1-3/4" thick door, but it can be adjusted as necessary. With optional spacer rings, the lock can be installed on doors as thin as 1-3/8" thick.

DORMA GRADE 2 CYLINDRICAL

The CL700 and CK700 lines of locks are the lever and knob versions in grade 2. It has a similar outward appearance, but is of a lighter construction. The CL700 lock with LR style lever handles has a Best-style IC cylinder.



5. The CL700 lock has a Beststyle IC cylinder.

(See photograph 5.) A side view shows the lighter grade 2 latch and chassis. (See photograph 6.) Like the earlier sample in grade 1, the LC lever handle lock has a standard DORMA lock cylinder. (See photograph 7.) A side view from the end opposite the latch shows an etched mark that identifies the center of the lock. (See photograph 8.)



6. The CL700 has a lighter grade 2 latch and chassis.

88¢ per bag



7. The LC lever handle lock has a standard DORMA lock cylinder.

When adjusting the lock for door thickness, that line should coincide with the center of the door.

The 700 series locks can be adjusted for a door thickness range from 1-3/s" to 1-7/s" without the use of spacer rings. Although slightly smaller than for the grade 1 locks, through bolts are used with the grade 2 lever handle locks to strengthen the installation.

The grade 2 locks (lever and knob) are available in the same cylinder, handle and finish configurations as DORMA grade 1 locks, but with fewer function options. The grade 2 cylindrical locks are available in the following functions: 01/Dummy Trim One Side, 10/Passage, 25/Communicating Passage, 30/Patio, 40/Privacy, 53/Entry, 70/Classroom and 80/Storeroom. Obviously, if you need some of the more specialized functions like Asylum, Electrified

and others, you will need to go with grade 1.

Where even less rugged hardware is adequate, DORMA also has grade 2 Tubular locksets in the CL600 and CK600 lines. It has the same basic handle designs as the 700 and 800 series locks and mostly the same finishes. The available finishes are the same except that 612/Satin Bronze is not available and 609/Antique Brass takes its place. These locks are only available with two cylinder options: DORMA or Schlage, or "less cylinder." Small format IC is not currently an option with the 600 series locks. The lock functions are also more limited. Functions that are available for DORMA 600 series locks are as follows: 01/Dummy Trim One Side, 10/Passage, 40/Privacy, 51/Entry, 70/Classroom and 80/Storeroom.

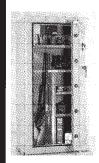
I didn't get to look at the DORMA mortise locksets, but they are all grade 1 heavy-duty. Those locks are available in all seven finishes mentioned for the cylindrical lock lines with the addition of two extra finishes: 606/Satin Brass and 611/Bright Bronze.

For more information on these and other door hardware products, contact: DORMA Architectural Hardware, Dorma Drive, Drawer AC, Reamstown, PA 17567-0411. Phone: 800/523-8483. FAX: 800/274-9724. Online at: www.dorma-usa.com.



8. An etched mark that identifies the center of the lock.

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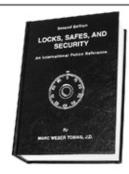




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Portable Power



Bob Sieveking

ey machines, electric drills, Dremmel tools and grinders all have one thing in common, their thirst for POWER. Most electric power tools require

a constant 115VAC power source. In the shop, the power is usually not a problem. It is as close as the nearest outlet. On the road, or on a remote job site, electrical outlets become conspicuous in their absence.

To the locksmith working on the road most of the time, availability of reliable portable AC power is more than a luxury. It is very nearly a necessity. There are two major players, meeting the 115VAC needs of the mobile locksmith. They are: Tripp-Lite and Redi-Line. Both of these manufacturers offer a 12 VDC to 115-20 VAC power converter. Tripp-Lite offers a solid-state converter with no moving parts, the whirr of a tiny cooling fan is the only sound it makes. Redi-Line offers a converter that produces its AC, using a speed regulated DC motor to drive an AC generator.

How Much Power Do I Need?

The first step in making an intelligent decision on a voltage converter is to determine your power needs. If you are powering one or two key machines, and occasionally a ½" drill, router, angle grinder or die grinder, your needs are actually fairly light. Rarely will you be using more

than one tool at a time. If you are on a job site, before the AC power is available, routinely drilling doors and installing locks, your power requirements may be a bit heavier. To assess your power needs, you will need to know the power requirements of the equipment you are using.

Power is "easy as PIE."

Power (expressed in watts)=P

Current (expressed in Amps)=I

Voltage (expressed in Volts)=E

 $P = I \times E$. It's easy as "PIE."

For example: if we have a 120 Volt $\frac{1}{2}$ " electric drill, rated at 6.5 Amps, we would be able to find the power requirements of the drill at full power. 6.5 Amps (I) x 120 Volts (E) = 780 Watts (P). If we have an electric chain saw.

Horse- power	Rated Current	Starting Current (amps)					
AC Motor	(Amps) @115 VAC	Shaded Pole	Permanent Split Capacitor	Split Phase	Capacitor Start		
1/6 hp	4.4 amps	7–9	8–11	10–12	13-22		
1/4 hp	5.8 amps	9–12	10–15	13–16	18–29		
1/3 hp	7.2 amps	11–15	13–18	17–20	22–36		
1/2 hp	9.8 amps	15–20	17–25	22–27	30–49		
3/4 hp	13.8 amps	21–28	25–35	32–38	42-69		
1 hp	16.0 amps	24–32	28–40	37–43	48–80		
1-1/2 hp	20.0 amps	30–40	35–50	46–54	60–100		

rated at 10 Amps, we could find the Power requirement of the saw by multiplying the Current (I) times the Voltage (E). $10 \times 120 = 1200$. The saw requires 1200 Watts of Power, at full load. A soldering iron is rated at .5 Amps. At 120 Volts, the soldering iron will consume 60 Watts of power. $(.5 \times 120 = 60)$

These rules apply to resistive loads and Universal type motors (i.e. brush and armature type motors).

It is important to consider other types of motors when finding the power requirements of your equipment. For some AC motors the "start currents" can be 1.5 to 5 times the rated "run current." The table on page 46 shows some examples of the differences between "start" and "run" current, for some common size motors.

As you can see, the type of motor can have a large effect on

the start current required by split phase and capacitor start motors. Capacitor start motors are designed to start under load. The amount of load, at start-up, will influence the start current. Many key machines are supplied with capacitor start motors.

Read the specifications for the converter. You will find that most have a "rated power output" (continuous output) and a "surge output." The surge is designed to overcome the start current demand of some motors, without over rating the converter.

Where Can I Mount The Converter?

Most converters have no specific mounting restrictions. It can be mounted horizontal or vertical. The only consideration is that it be mounted in a clean environment. Protect the converter from exposure to dirt

and moisture. In a locksmith van, I would add, protect the converter from key chips and conductive metal dust. Mount the converter away from the key machines.

Should I Use Special Cables To Connect The Converter?

The 12 Volt supply lines to the converter should be sized to meet the Power requirements of the converter. As we convert the voltage from 12 volts to 120 volts, we have to supply the same power to the converter as we are consuming at the output. A 1-amp load on the 120 Volt side of the converter is a 120-Watt power drain. We must supply the converter with 120 Watts of power at 12 Volts. $P = I \times E$. 120 Watts = 10 Amps x 12 Volts. A 1 Amp drain at 120 Volts will require a 10 Amp supply on the 12 Volt side of the converter.

Converter Pri. Voltage & Power Output	Up to 3¹	10' and over		
12V 500W	#6	#4	#4	#4
24V 800W	#6	#6	#6	#4
36V 900W	#6	#6	#6	#4
12V 1000W	#2	#2	#2	#0
12V 1600W	#2	#2	#2	#0
24V 1600W	#6	#6	#6	#4
36V 1600W	#6	#6	#6	#4



With this in mind, the table on page 47 should be used as a guide for selecting the wire gauge necessary to connect your converter. If you use a wire that is too small, the converter will not function properly, and will not deliver its' rated power. A #0 wire is larger in diameter than a number #2 wire.

The best source that I have found for service cables is an industrial welding supply house. They will have the large diameter wires, in flexible stranded format, with the best insulation jacket. Don't skimp on the supply lines. They will determine the performance of vour converter. If the lines are under rated, the voltage drop between the battery and the converter will rob the converter of the necessary voltage to give its rated performance.

Carefully plan the route for the supply cables. If you run them under the floor of your van, insure that they are not subjected to high heat or oil vapor contamination. This will shorten the useful life of the cable insulation. Avoid routing the cable over sharp edges or through areas that could cause a rub injury to the insulating jacket.

It is not permissible to use the body ground as the return line for the converter. The converter must be connected to the supply battery using cables to the positive and negative battery terminals. Fuse the Positive battery cable leading to the converter at the battery. Consult the installation instruction of the converter to find the **2. The specifications for the Redi-Line.** proper fuse rating.

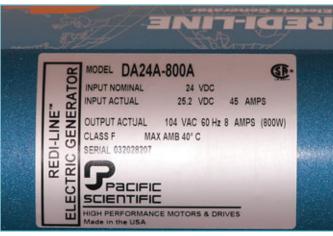
Photograph 1, shows a representative Redi-Line generator/ converter. Redi-Line is a "Motor-Generator" type converter. A heavy-duty 12 Volt motor turns a 120 Volt AC Generator to create the 120 Volt AC current. The AC current produced by the Redi-Line generator is a true "sine wave." This proven technology has been in use for many years.



1. A Redi-Line generator/converter.

The Redi-Line incorporates a unique "Demand" start circuit. The circuit draws only 25ma of battery current in the "sleep mode." When a machine is switched on, the Redi-Line senses the load and starts. When the machine is switched off, the Redi-Line generator senses loss of the load, and immediately turns off, returning to the "standby or sleep" mode. This unique battery conserving capability is a Redi-Line exclusive.

The specifications for the Redi-Line generator are shown in photograph 2.



The Redi-Line is designed to operate on 24VDC. (Note: A fully charged 12 Volt automotive battery will produce 12.6 Volts. Two Batteries in series will produce 12.6 + 12.6 = 25.2 Volts.) At full rated load, this Redi-Line will draw a nominal 45 Amps of 25.2 Volt current.

The (continuous) output of the Redi-Line generator is 105 Volts of 60 HZ AC at 8 Amps. This will produce a nominal 800-Watts of power. Not shown on the motor tag is the "surge output." This generator will produce a surge output of 11 Amps, to produce a short duration start power of 1200 Watts.

The Redi-Line converter generator is 16-1/4" long, and weighs only 26 lbs.



3. The motor end cap electrical connections.

Photograph 3, shows the motor end cap electrical connections. They are fairly straightforward.

> The bolt terminals are labeled Positive (+) and Negative (-), for the connecting cables from the vehicle batteries. A single grounded 120 Volt receptacle gives access to the AC power. A thermal overload breaker is mounted to the left of the outlet receptacle. In the event of a circuit overload. the white button will pop out and the generator will shut down. This protects generator from serious damage. Wait a

few minutes, and press the breaker to reset the Redi-Line.

Continued on page 50





Heavy duty and built to last! The Blue Punch key machine is a dedicated key punch machine designed to provide factory original keys. Creates keys with the speed of a duplicator. The Blue Punch is fast, extremely accurate and easy to use. The key machine is set up at the factory to provide automatic spacing and depth. An ideal key machine for the commercial locksmith, hotels, schools and other institutions. Fast and easy to use, this key machine is precision machined to the tightest tolerances. Portable and dependable, hand operated – no electrical outlet needed. The professionals clear choice: The FASTEST and EASIEST punch machine on the market.

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BP201C70	Most Popular Corbin System 70 Keyways & 59 Series A1, A2, B1, B2, D2 & 60 Series 6 pin
BP201DE	Master Door Locks & all Dexter Cylinders
BP201FW	Falcon Standard (Non I/C) & all Weiser Cylinders
BP201IC	Best, Falcon & Arrow Small Format I/C Key Sections A2 Interchangeable Core (I/C) A-R, TA-TE, W Arrow 1A-4D *will cut A3 & A4 w/ purchase of code bar
BP201IC-A3	Interchangeable Core (I/C) A3 System
BP201IC-A4	Interchangeable Core (VC) A4 System
BP201KW	Kwikset Standard & Titan* *(Will Not Cut Square 1st Cut) & Yale Residential
BP201SC	Schlage Classic (Including I/C) Obverse Key Sections Only C, CE, E, F, FG, G, H, J, K, L (Aftermarket L Blanks Only) & Primus - Same Key Sections As Obverse Except A "P" Has Been Added To Keyway # (ie: CP, CEP, EP, Etc.) & Everest - C Key Sections (I.E. C123, C124, C126, C135, C145Etc.) (Including I/C) & Everest Primus - Uses Same Names as Primus
BP201SCEB	Everest - B small format Key Sections Only - B123,B125, B234, B235 All Other Keys With A B + 3 Digits *will cut A3 & A4 with purchase of code bars
BP201SCRV	Schlage Reverse Sections - D,DQ,Q,QS,S,T,U,V,W & Y
BP201WK	All Weslock Cylinders

Continued from page 48

If you are powering multiple machines on your truck, use a multiple outlet strip to provide more outlets.



4. The Tripp-Lite 1000-Watt converter.

Photograph 4, shows the Tripp-Lite 1000-Watt converter. The Continuous output of the Tripp-Lite converter is 120 Volts of 60 HZ AC at 8.3 Amps. This will produce a nominal 1000-Watts of power. Documentation suggests that the "surge" power capabilities of the Tripp-Lite are "up to twice the rated power output." No Load current draw of the Tripp-Lite is .4 Amps (400ma).

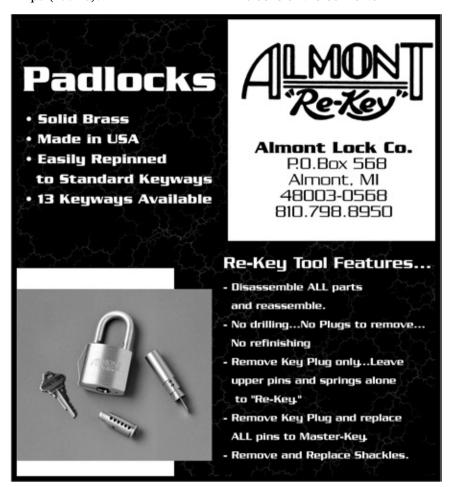
The Tripp-Lite converter is 3-7/8 x 6 x 12" and weighs a mere 6 lbs.

Photograph 5, shows the electrical connection blocks of the converter. The terminals are marked "Red" for the Positive connection, and "Black" for the Negative connection.

Four 40 Amp automotive type fuses provide overload protection for the converter. A whisper fan mounted in the aluminum heat sink provides cooling ventilation for the power components of the converter.



5. The electrical connection blocks of the converter.





6. The three 15 Amp 120 Volt receptacles.

Photograph 6, shows the three 15 Amp 120 Volt receptacles, and the lighted power switch. The extra receptacles are really handy. The lighted power switch makes it easy to see if the unit is on. Solid-state converters must be turned on to make the AC available. Because of the no load current requirement, it is necessary to turn the unit off when power is not required. This avoids discharging the vehicle battery.

Tripp-Lite has a nifty "Low Battery" alarm, which alerts you to the impending shut down of the converter. The Tripp-Lite will not run your battery flat and leave you without a start.

In use, the Tripp-Lite converter is up to 90% efficient, and very nearly silent.

I have used a Redi-Line generator for well over twenty years. I mounted the Redi-Line Vertically, under the workbench of my truck, and have never had a problem with it. I have a Solidstate converter in my new truck, and it too is a pleasure to own. I wish it had the "demand" power on circuit of the Redi-Line, but it is silent, except when it is running out of battery. Either of these units will provide Dependable Portable Power to meet the needs of the most demanding locksmith.

For more information on the models and specifications of these fine tools, find them on the Internet, at: http://www.tripplite.com, and http://www.rediline.com.



Utilizing cutting edge technology, our QUICK-CODE cloning tool has the ability to duplicate and display the transponder's permanent code as well as identify transponder presence. It is fitted with the most innovative electronic components and the software is easily updated. Included is our revolutionary service and the security of knowing we back our cloning tools with FREE UPGRADES FOR LIFE.

The QUICK-CODE is easy to use with on-screen instructions that are clear and easy to follow. Its side-fitted antenna allows keys to be read without removing from the key ring. Extremely versatile, it comes with USB and RS232 interface for linking to a computer. This allows for simple high-speed data transfer.

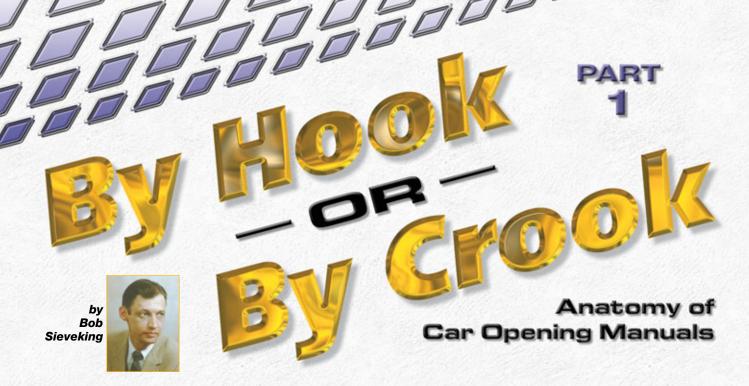
And as further incentive, buy a QUICK-CODE cloning tool now and receive ten free keys.

Ask your STRATTEC distributor about it today.

QUICK-CODE™

Part #708883





hen choosing a car opening manual, let's first look at the experts: Who are the players? What do they offer? Why should I have more than one reference? Where can I find all of the best "tricks" for opening the new cars? Why do I (the undisputed and all knowing expert in all matters 'locksmith') need all of this information, just to open cars?

Experience is by far the best teacher, but it exacts a heavy price for the tutelage. If you believe that you really don't need specific information to defeat or bypass the latest automakers offering of door security, you haven't opened many late model autos. Without specific information on the location and type of linkage, or the specific tool designed to bypass it, you may fall short in your expectations of success.

As locksmiths, we deal in "finesse." Our customers expect us to open their "prized possession" professionally. Every car opening should be done quickly, without damage, and with the least stress on the vehicle. "Specific information," on the vehicle at hand, is essential to your consistent success.

Who are the "Players?"

For article, we've gathered what we consider to be the "Who's Who of car opening manual suppliers.

- High Tech Tools, Access Manuals
- HPC's Car Opening Authority
- Lockmasters Quick Entry Car Opening Manual, (Tech Train)
- LTI Tools, Comprehensive Lock Out Manual
- PRO-LOK's, All in One Manual
- Slide Lock Tool Co. "Z-Tool" Grand Master Tool System Manual

What do they offer?

High Tech Tools "Import & Domestic Access Manuals"

In alphabetic order, High Tech Tools will be the first manual to review. *Photograph 1*, shows the High Tech Manual set. The High Tech Manual is actually a two-volume set of 8-1/2" x 11" perfect bound manuals. Information is divided into two categories. One volume addresses domestic vehicles, and the second volume contains information on foreign vehicles.

The covers are four color glossy, with a plastic laminate coating. The laminate gives the manuals a more durable cover. Pages are of a high quality white stock. The photographs and diagrams are all very readable. The photographs are of the highest quality, and show detail and clarity.

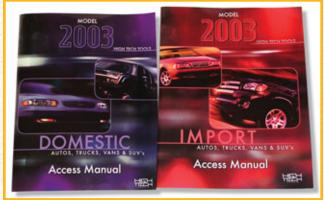
The manuals are organized by an alphabetical index of auto makers, then models. The models are further divided by year. *Illustration A*, shows a page from the Model Index. The index page is divided into seven columns.

Column "A" shows the manufacturer, or make. Column "B" narrows the search to the particular model. Column "C" identifies the vehicle according to body style. This distinction identifies: 4-door, 2-door, convertible, or station wagon body styles. The "C" column is also used to define the lock button type, identifying horizontal and pop-up or vertical button locks. Column "D" identifies the vehicle model year. Columns "E -F&G" direct you to the manual and listing for the

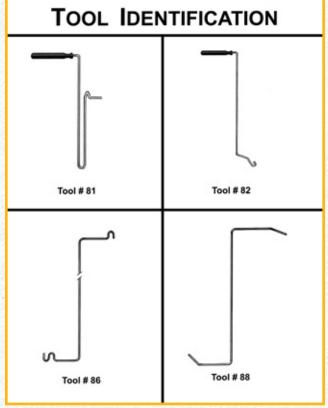
Continued on page 54

defined vehicle. The





1. The High Tech manual.



B. A page from the High Tech tool identification section.

model indexes of both manuals are identical. If you pick up the wrong manual, as soon as you look up the auto, you will be directed to the correct manual. Column "E" indicates the correct manual. Column "F" shows the manual section, and Column "E" the numbered procedure that is recommended.

Illustration B, shows a page from the tool identification section. Because of the number of tools in this manual, it is necessary to carefully identify each. There are some tools that are very specific to a particular body style. Having the right tool makes the job easy. Having the wrong tool can make it impossible. All tools are identified, so you can inventory your tool carrier and be sure that all of your tools are accounted for. It also makes ordering a missing tool easier. These illustrations are photographs, rather than drawings.

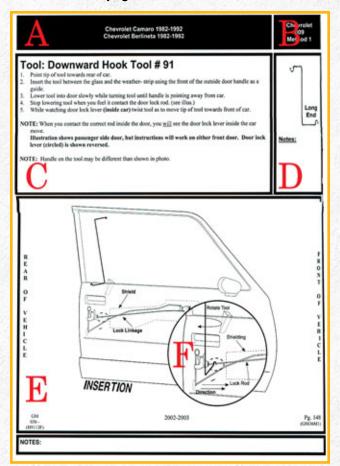
٨	. D		. D	. 17	. 17	
Chaysar	B	BodyStyle	Year Span	LΕ	$ \mathbf{F} $	U
Chrysler	Leftaron Conventible	bonyage	1990 - 1995	Domestic	Chrysler	- 01
Chrysler	LeBaron GTC Convertible		1990 - 1995	Domestic	Chrysler	- 60
Chrysler	LHS		1994 - 2000	Domestic	Chrysler	80
Chrysler	Maserari TC		1989 - 1991	Domestic	Chrysler	- 00
Claysler	New Yorker		1980 - 1983	Domestic	Chrysler	0.
Chrysler	New Yorker		1986 - 1989	Domestic	Chrysler	- 00
Chrysler	New Yorker		1990 - 1993	Domestic	Chrysler	- 00
Chrysler	New Yorker		1994 - 1995	Domestic	Chrysler	
Chrysler	New Yorker Salon		1990 - 1993	Domestic	Chrysler	00
Chrysler	Provier		2001 - 2002	Domestic	Chrysler	- 01
Chrysler	PT Creiser		2001 - 2002	Domestic	Chrysler	
Chrysler	Sebring		1995 - 2000	Domestic	Chrysler	0
Chrysler	Schring	4 Door	2001 - 2003	Domestic	Chrysler	
Chrysler	Schring	Convertible	1996 - 2000	Domestic	Chrysler	
Chrysler	Subring	Converible	2001 - 2003	Domestic	Chrysler	
Chrysler	Sebring	Coupe	2001 - 2003	Domestic	Chrysler	-
Chrysler	Your & Country	Cirqu	1984 - 1990	Domestic	Chrysler	
Chrysler	Town & Country		1991 - 2003	Domestic	Chrysler	
Chrysler	Town & Country Wagon	Wagon	1984 - 1988	Domestic	Chrysler	
Chrysler	Voyager Voyager	- april	2001 - 2003	Domestic	Chrysler	
Daewoo	Trojugar				Permy men	_
Make	Model	BodyStyle	Year Span	Manual	List	ing
Darwon	Lanos	2 Door	1998 - 2002	Import	Daewoo	0
Dagwoo	Lance	4 Door	1998 - 2002	Import	Daewoo	0
Dacwoo	Lance Sport	Harch Back	2002	Import	Daewoo	
Daywoo	Legano	4 DOOR	1998 - 2002	Import	Duewoo	- 0
Darwoo	Nubira	4 Door & Wagon	1998 - 2002	Import	Duewoo	- 0
Daihatsu	Model	BodyStyle	Year Span	Manual	Uvi	ing
Dalhatea	Charade	3 door/All	All Years	Import	Daihatsu	- 0
Dulhatea	Clunde	4 door/All	All Years	Import	Daihatsu	- 0
Dodge	Model	BodyStyle	Year Span	Manual	List	ing.
Dodge	600	1	1984 - 1988	Domostic	Dodge	- 0
Dodge	Aries		1984 - 1988	Domostic	Dodge	. 0
Dodge	Averager		1995 - 2000	Domestic	Dodge	- 0
Dodge	Caranan		1984 - 1990	Domestic	Dodge	- 0
Dodge	Caravan		1991 - 2003	Domestic	Dodge	0
Dodge	Charger		1984 - 1990	Domestic	Dodge	- 0
Dodge	Colt	Horizontal	1986 - 1994	Domestic	Dodge	- 0
Dodge	Colt	Pop up locks	1986 - 1994	Domestic	Dodge	0
Dodge Dodge	Colt Vista	Horizontal	1986 - 1994	Domestic	Dodge	- 0
	Celt Vista	Pop up locks	1996 - 1994	Domestic	Dodge	-
Dodge		Top up social	1988 - 1996	Demestic	Dodge	0
Dodge	Daketa			Domestic	Dodge	- 0
Dodge Dodge	Dalota Dalota		1997 - 2000 2001 - 2003	Donotic	Dodge	0

A. A page from the High Tech Model Index.

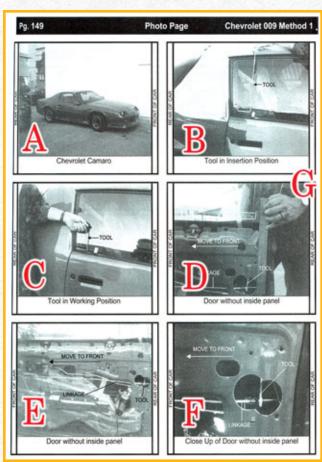
In *illustration C*, we see the opening diagram. At "A" the vehicle is identified by its make, model and year. "B" identifies the method. In this case the method is "Chevrolet 009." This is "method 1." If there were an alternate method, there would be a second opening procedure labeled "Chevrolet 009 method 2." Block "C" gives a step-by-step opening procedure.

Notes, cautions and authors insights are also found in this block. Block "D" shows a graphic representation of the correct tool. Block "D" contains a professionally drawn accurate line drawing of the door. The positions of the lock and handle linkages, shields and obstructions are illustrated. If necessary, an inset, "F" further defines the position of the linkage and tool placement, necessary to effect the opening. Some locksmiths will prefer the detailed line drawings to the photo illustrations.

Illustration D, shows High Tech Tools instructional Photo Page. This six photo series shows; a photo of the vehicle (A) for body identification; a photo of the tool insertion position (B); a photo of the tool in the working (engaging the linkage) position (C) to illustrate the tool depth and placement; a photo of the door without the inside panel (D) showing tool placement; a photo of the inside of the door (E) to show linkage orientation and a close-up photo (F) of the tool placement on the lock linkage.



C. A High Tech opening diagram.



D. High Tech Tools instructional Photo Page.



If a picture is worth a thousand words, you have a library here. The edges of the pages are tabbed (G) for each manufacturer. If the book is fanned the tabs help locate each manufacturers section. Looking through the various photo pages, I found all photographs to be sharp and clear.

HPC's Car Opening Authority®

Shown in *photograph 2*, the HPC manual uses the standard 8-1/2" x 11" three ring binder format. The Binder is a padded lay-flat design, for convenience and durability. Pages are of a high quality white stock. All line drawings and instructions are clear and easily readable. *Photograph 3*, shows HPC's Car opening Authority and a supplemental training instruction, both in CD format. Locksmiths that prefer the manuals on their lap top computer will enjoy this added convenience.

HPC has chosen to address car opening by closely defining specific universal opening methods, then directing the locksmith to the method that they have found most successful.

Illustration E, shows a page from the Model Index. The first thing you will notice is the simplicity of this

HPC'S
CAR OPENING
AUTHORITY

The Mark Companions Visited Erry Market Australia

2. The HPC manual uses the standard 8-1/2" x 11" three ring binder format.

system. Column "A" lists the various models under a particular manufacturers heading. The years of manufacture are listed under "B." The vears are ascending, from left to right. They illustrate fifteen years of manufacture. Shaded years indicate that the model was not



3. HPC's Car opening Authority and a supplemental training instruction, both in CD format.

available during that period. By locating the manufacturer, paging down the list to the specific model, and moving right to the correct year, it is a simple matter to find the recommended opening procedure.

Pages at the rear of the manual picture the various special tools used in each of the opening styles. *Illustration F*, shows one of the tool identification pages. Tool illustrations are clearly labeled and illustrations are sharp.

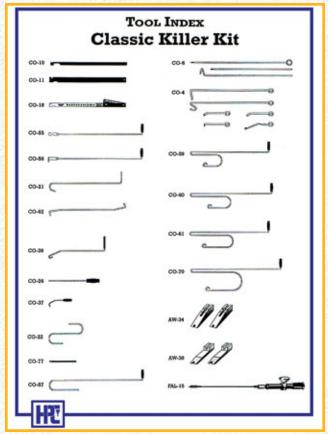
HPC has carefully defined "thirteen" standard opening techniques, or styles. Thirteen styles will open nearly any auto. The styles are defined by a two-letter designation. The letter designations and opening styles are shown in the *Table 1*.

Illustration G, shows the brightly colored tabs that divide the opening technique or style sections in the HPC's manual. HPC has defined the opening styles, and then indexed the autos to the opening style. Using standard tools and only thirteen styles, nearly any auto can be opened. Instruction sheets for new tools and notes from field experience can easily be categorized and added to the manual.

The technique or style pages of the HPC manual take on a standard format. *Illustration H*, shows a page from the BC, "Bell Crank Style" section. This is "Technique BC-1," as you see at "A." Block "B" indicates the Part Number of the required tool. Optional

CADILLAC	1988	1989	1990	1991	_		1994	1995	1996	1997	1998	1999	2000	2001	200
Eldorado	\otimes	888	$\otimes \otimes$	888		1400-				804	GM+1,	HR2			
600000	19	94+: G	rab hor	toontal	irkage	behind	sheet,	near la	ech.						
	\otimes	\otimes	888	888	888	888	888	888	\otimes	\otimes	888		HR-2	TO-7	
Escalade	20	01+ 500	DE IMP	WCT A	REAG	s.									
Floretwood- Brougham		*	*	*	UO:1	(GM-1 (CO (C)	9	અ G	61, HR	12	**	8	*	*	*
1000	196	H-96:	Rear d	bor may	be eas	_	_	has ac	oms pe	nel nec	r inside	(lock b	utton		
Seville STS/SLS			804			BC4 UO:1	GM-1 (00)			BC4	GM-1	HR2,	TC-7		
3000 S13 3C3	190	00+ SIC	DE IMP	ACT A	RBAGE	5.94+	Grab ho	rizonta	ilirkag	e behin	d shiek	t, neor	latch.		
O-EVROLET	1968	1989	1990	1991	1992	1993	1994	1995	1996	1907	1998	1999	2000	2001	2003
an years	HR1,HR5														
Astro Van	1985-97: Tool must fit into 2" (5orn) opening at extreme rear inside of front door panel														
	HR-1														
Avalanche	2002 SIDE IMPACT ARRAGS.														
Boretta	-		GM1	UO-1, (00.59			GA	41	888	888	888	888	888	88
		TV-1	Jan 1,	н	R2, UC	21	HR2	-		000	HRA	TG7	000	8000	00
Blazer, S10	1905-97: Bend tool to bypass inner contour of door.														
CK-Series Pickups								HR-2							_
	HRIUD1 QMIHR2								a	81, HE	12				
Carriero				_		100	000	000	000	000	888	888	500	000	800
		n	C1.W	1.3									$\times \times \times$	000	೧೧۷

E. A page from the HPC Model Index.



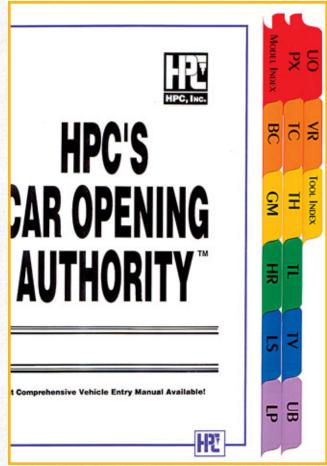
F. One of the HPC tool identification pages.

Letter Designation	Technique or Style
ВС	Bell Crank
TH	Through the Handle
GM	General Motors Latch
TL	Through Lock
HR	Horizontal Rod
TV	Through Vent (window)
LS	Lasso Tool
UB	Under Button
LP	Lazy Pawl
UO U	nder & Over (under glass)
PX	Lock Picking
VR	Vertical Rod
TC	Through the Car

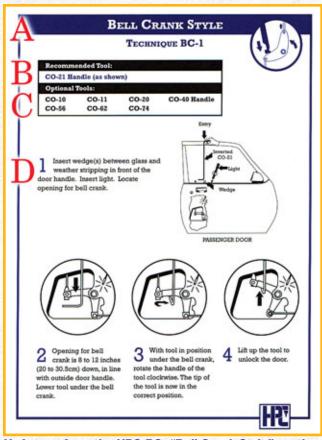
Table 1.

Tools are shown at "C." The "D" section of this page gives step-by-step instruction on the proper use of the tool, and illustrates, by line drawings, both the location of the target within the door, and the action of the tool when the target is contacted.

Looking through the various style sections, I found all illustrations and instructions to be sharp and clear. The two color pages are a colorful departure from the traditional black and white manuals.



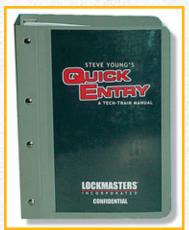
G. Brightly colored tabs that divide the HPC opening technique or style sections.



H. A page from the HPC BC, "Bell Crank Style" section.

Lockmasters/Tech-Train "Quick Entry" Opening Manual

Lockmasters enters the field this year with a proven product. Many locksmiths familiar with Steve Young's "Quick Entry Car Opening Manual" will appreciate that it is carried on by Steve Young and Lockmasters shown in *photograph 4*. The Quick Entry manual uses the traditional 5-1/2" x 8-1/2" size, loose-leaf three-ring binder style binder. All illustrations are clear and concise. Line art is used exclusively. Printed on quality white paper, and tabbed for Domestic, European and



4. The Quick Entry Auto Opening Manual.

Asian vehicles, the manual is comprehensive and complete. Annual information updates are easily added using the loose-leaf format.

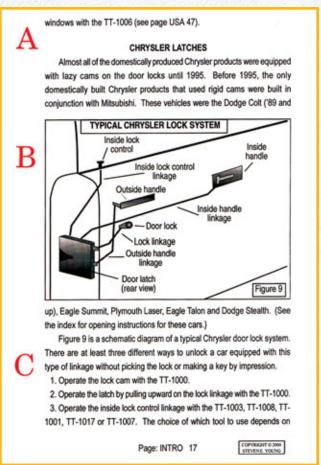
Possibly the most important and informative portion of any instruction manual is the introduction. Instruction on how to use the manual and an introduction to the writers' opening style

is essential. *Illustration I*, shows a page from the Introduction Section of the Lockmasters manual. On this page the author "A" defines the Chrysler style latches. The drawing at "B" defines the approximate and generic placement of the components in the door. Opening methods, alternate methods and a list of applicable tools are found at "C." The comprehensive introduction to this manual should be required reading for any locksmith tasked with opening vehicles, using bypass tools.

Illustration *J*, shows a page from the vehicle index of the Lockmasters manual. The Manufacturer and model of the autos are organized alphabetically in column "A." Column "B" indicates the recommended tool used to open this auto. If it becomes necessary to pick the door cylinder, the pick-direction, to unlock the passenger door, is shown in Column "C." The section and page for complete opening instruction is found in column "D." If you have the time, you can refer to the appropriate instructional training video by locating the Video Tape indicated in column "E." Footnotes, at "F" further define symbols and information found in the vehicle index.

The opening instruction for a 1993 and up, Eagle Summit is shown in *illustration K*. Line drawings at "A"

Continued on page 60



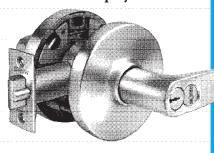
I. A page from the Introduction Section of the Quick Entry manual.

VEHICLE	TOOL	PICK*	PAGE	TAPI
BUICK (Continued)				
Skyhawk All 4-Door	H.M.T.4**	CCW	USA 13	555
Skylark 87 - 91	TT-1000	CCW	USA 4	579
Skylark 92 - 97	TT-1008	CCW	USA 65	574
CADILLAC				
Allanté All	TT-1000	CW	USA 14	579
Catera 97 - 01	TT-1003	CCW√	USA 123	583
Cimmaron All	TT-1001	CCW	USA 13	555
De Ville 80 - 86	TT-1010	CW	USA 1	N/A
De Ville 87 - 91	TT-1000	CW	USA 4	579
De Ville 92 - 93	TT-1000	CW	USA 6	574
De Ville 94 - 96	TT-1008	CCW	USA 82	577
De Ville 97 - 99	TT-1022	CCW	USA 128	583
De Ville (DTS) 00 - 01	TT-1001	CW.	USA 162	587
De Ville Concours 97 - 99	TT-1022	CCW	USA 128	583
Eldorado 80 - 91	TT-1003	CW	USA 11	579
Eldorado 92 - 01	TT-1000	CCW	USA 6	574
Escalade 99 - 01	TT-1003	CW	USA 155	584
Escalade 02	TT-1008	CCW	USA 180	N/A
Escalade EXT 02	TT-1008	CCW	USA 180	N/A
Fleetwood 80 - 86	TT-1010	CW	USA 1	N/A
Fleetwood 87 - 91	TT-1000	CW	USA 4	579
Fleetwood 92 - 95	TT-1000	CW	USA 6	574
Fleetwood Brougham 87-92	TT-1000	CW	USA 4	579
Fleetwood Brougham 93-96	TT-1008	CW	USA 70	576
Seville 86 - 91	F.C.O.T.**	CCW	USA 15	579
Seville 92 - 97	TT-1000	CCW	USA 6	574
Seville (STS) 98 - 01	TT-1008	CW.✓	USA 147	584
CHEVROLET				
Astro 84 - 01	TT-1019	CCW	USA 91	580
Astro "dutch-door" 93 - 97		CCW	USA 137	581
Avalanche 01	TT-1008	CCW	USA 164	587
Beretta All	TT-1000	CW	USA 4	570
Blazer (K-5) All	TT-1006	CCW	USA 19	579
Blazer (S-10) 85 - 94	TT-1003	CCW	USA 20	579
Blazer (S-10) 95 - 01	TT-1003	CCW	USA 96	580
* Direction to pick passenger s CW = Clockwise, CCW = Cou Z = No lock on passenger side	side door lock. inter Clockwise		TRO 35 - 41	

J. A page from the Quick Entry vehicle index.

We Interrupt This Magazine To Bring You The Following Important RROW Program:

Thanks for tuning in! We at **Stone & Berg** bring you the best when it comes to delivering a great program. A program which features hardware manufactured by the **Arrow Lock Company.**



First on our program are the sturdy L, M, Q & W Series Lever Locks.
These lever locks meet all tough industry standards for ADA, and they'll meet your tough standards as well.

Next we feature the **S1250 Series Exit Devices.** This product also meets tough ADA standards. When used with **Arrow's** new lever trim, they will provide a winning combination that will receive rave reviews time and time again.

Same Day Service

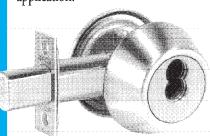
Competitive Pricing

IRROW

Knowledgeable Sales Staff

And More!

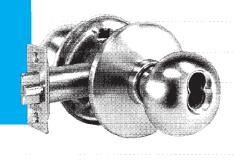
Also featured in our program are the dependable **E** & **D** Series Deadbolts. They are solid performers and are excellent choices for any heavy-duty application.



Rounding out the program are the **C, M & H Series Cylindrical Locks.** They too are solid performers and will provide quiet, dependable operation for years to come.

At **Stone & Berg**, we know what performance is all about. Not only should the products be exceptional, but your Distributor should be award winning too.

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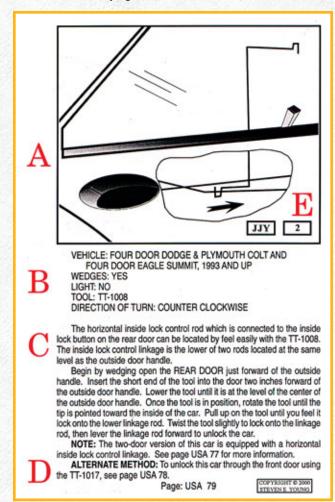
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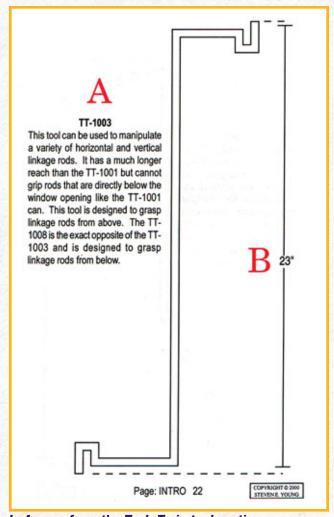




K. The opening instruction for a 1993 and up Eagle Summit.

define the location of the linkage, and the action of the recommended opening tool, using a through-the-door view of the lock and latch rods. The vehicles serviced by this instruction, tools required and direction of tool rotation of, are outlined at "B." The paragraph at "C" gives helpful information and step-by-step opening instruction. If there are any alternate tools or opening methods, they will be described at "D." This manual also includes an indication of the opening difficulty at "E." Opening difficulty is rated from 1 to 3+. (3+, being the most difficult) In this case the opening difficulty is 2. Openings are also rated for the application of the Jiffy-Jak opening method. If, this tool can open the auto, the JJY (Jiffy-Jak Yes) symbol will be present. If, the auto cannot be opened by the Jiffy-Jak, the JJN (Jiffy-Jak No) symbol will be present.

Tool illustrations for this system will be found in the introduction. *Illustration L*, shows a page from the tool section of the introduction. The tool diagram for this manual is unique, in that the diagrams are dimensioned (B). If it becomes necessary to make one of the tools listed in an opening, you have all of the information necessary to bend up your own version. Tool application and a description of the tools designed use are found at "A."



L. A page from the Tech-Train tool section.

Next month we conclude covering LTI's Comprehensive Automotive Lock Out Instruction Manual; PRO-LOK's "All in One Manual"; and Slide Lock Tool Co's. "Z-System Manual."

For more information on the car opening manuals covered contact:

High Tech Tools

Phone: 800-323-8324 or 305-649-7014

Fax: 305-541-0074

E Mail: avigil@mindspring.com Web: www.hightechtools.com



HPC Inc.

Phone: 800-323-3295 or 847-671-6280

Fax: 847-671-6343

E Mail: hpc@hpcworld.com Web: www.hpcworld.com 267

Lockmasters/Tech-Train Productions Phone: 800-356-0136 or 850-476-7197

Fax: 850-476-7410

 $E\ Mail:\ techtrain@techtrainproductions.com$

Web: www.techtrainproductions.com



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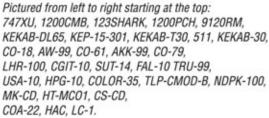


















Circle 220 on Rapid Reply

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Ingersoll-Rand® ACCESS CONTROL SURVEY

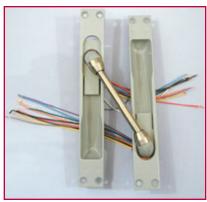
PART2



Rand. Remember, the customer that wanted a lock repaired and then realized he needed a lot more?

The site evaluation was the first step in determining what the customer actually needed. For those that missed last month, there were four areas that we decided to improve on the main entrance by adding a door closer, electromagnetic lock, exit hardware and electronic access control.

This month I am going to cover the 692 Series BRG



This is the EPT10 power transfer from Von Duprin. It is used to hide the wires that go from the door to the door frame.

31" to 48" door. The touch bar uses two photoelectric infrared beams to detect an intention to exit. (See photograph 3.)

The two photoelectric beams travel from one end of the exit device to the other. The two

beams start at opposite ends of the bar. Blocking the path of either or both of the beams is considered an intention to exit and will

deactivate the two relays located on the main board.

Loss of power to the device will also deactivate the relays. Both contacts have a 4 Amp rating at 30 Volts DC.



Each end of the touch bar has a circuit card that has one transmitter and one receiver for the photograph electric beams. The two beams are sent from opposite ends of the touch bar.

Each contact has a common, normally open and normally closed connection.

In a normal condition, the "push to exit" is illuminated in red. (See photograph 4.) As soon as an intent to exit is detected, the word "exit" is illuminated in green.

There is only one drawback with the 692. It may not work reliably in areas where the photoelectric components are hit by sunlight. If the touch bar is installed on a door that is located in a solarium or a room/hallway



ast month we went through a site evaluation with a couple of helpful friends from Ingersoll

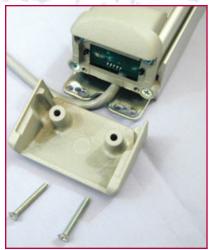
Here is the 692 series touch bar from Locknetics. It uses two photograph beams to detect an intent to exit. It is 100% electronic with no moving parts.

Touch Bar from Locknetics (see photograph 1) and the EPT10 Electric Power Transfer from Von Duprin. (See photograph 2.) Remember, both of these companies are a part of the Ingersoll Rand family.

The 692 Series BRG Touch Bar is a non-latching, releasing device that can be ordered to fit a

PUSH TO EXIT

When the touch bar senses an intent to exit, it changes color from solid red to the green word "exit".



The end cap is removed with two screws and exposes the beam housing.

that has a large amount of glass, the touch bar may never detect an intent to exit. This is not common, but has been reported in a few extreme circumstances according to the factory.

I am never happy until I take things apart, so I want to show you the insides of the 692 BRG. There is an end cap at each end of the touch bar. (See photograph 5.) When the end cap is removed, you will see the mounting plate and the beam housing assembly.

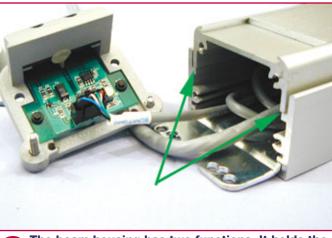
The beam housing has a twofold purpose. As its name implies, it holds the circuit card that generates the photoelectric infrared beam.

Its second purpose is to physically hold the touch bar together.

As you can see in photograph 6, the touch bar has an upper channel that fits into the lower channel. Each channel is attached to the beam

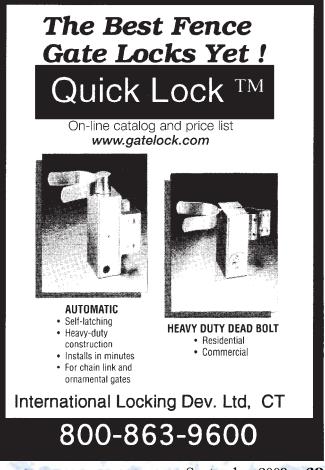
housing with two screws. This holds the upper and lower channels together.

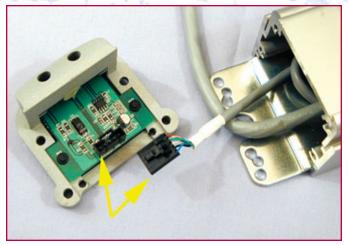
A five pin flat connector is used to connect the beam housing circuit card to the main board. (See photograph 7.) After the beam housing assembly is removed, the upper and lower channels (See



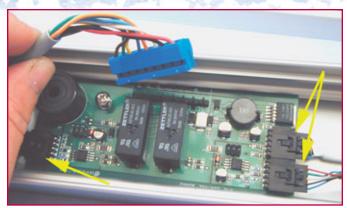
The beam housing has two functions. It holds the photoelectric circuit card and attaches the upper and lower channel together.







A flat, 5-pin connector is used to connect the circuit card to the main circuit card.



The main circuit card has the connectors for the diode card, both photograph beam circuit cards and the connector that interfaces the push bar with the rest of the system.



With the beam housings removed, the upper channel is lifted from the lower channel, exposing two circuit cards.



actually

illuminates the

photograph 8)

can be separated.

channel holds

The upper

same 5 pin flat style connector is used to connect all of the circuit boards. (See photograph 12.) The only connector that is different is used to connect the touch bar to the other parts in your system. It is an 8-pin connector that supplies power to the touch bar and returns the normally open and normally closed contact information.

The circuit cards can be removed from the lower channel by first loosening the setscrews that hold the boards in place. (See photograph 13.) After loosening the setscrews, the board can be slid out of the channel. (See photograph 14.)

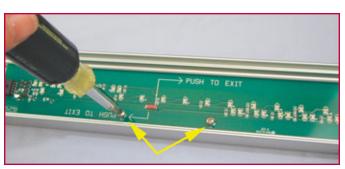


The upper channel has a spacer on one end and a plastic plate with the words "push to exit" on the other end.



Here is a good look at the main circuit card.

touch bar. (See photographs 10 & 11.) How does it light up the touch bar? Well, the diodes are of the light emitting variety, commonly known as



If either circuit card has to be removed, all it takes is loosening a couple of setscrews.

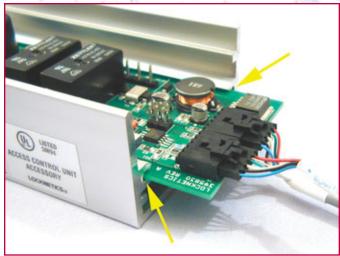


The light emitting diodes "led's" on the diode card are what light the words "push to exit".

LED's or "light emitting diodes."

As with the circuit card that generates the photoelectric beam, the

The touch bar can be installed on a wooden, hollow metal or aluminum door. If the touch bar is mounted to a "narrow style aluminum door" two spacer adapters must be used. (See photograph 15.) The spacer

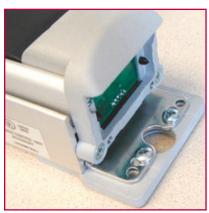


With the setscrews loosened, the card can be easily slid from the bottom channel.



Mounting adapters must be used if the touch bar is used on a narrow style aluminum door.

adapters are attached to the mounting bracket with two screws. (See photograph 16.)



The adapter screws to the mounting plate with two screws.

Attaching the touch bar can be done in one of several ways. Since this installation will be on an aluminum door, we will be using self-drilling/tapping screws. (See photograph 17.)

If it were a metal door, we would use the blind nut installation, which can be seen in the photograph below the screw.

The blind nuts can be used on the aluminum door if you strip a hole with the screws. The screws and blind nuts are included with the touch bar.

For a wooden door installation, you can use screws or sex nuts, which ever you prefer.

Aside from the screws, there is an additional hole needed for the 8-conductor cable. This is a 5/8" hole that will be located on the hinge side of the door, and concealed by the end cap.



You have your choice of self-drilling/tapping screws for aluminum doors or blind nuts for metal doors. Screws or sex nuts are used for wooden doors.

The handing of the touch bar can be ordered from the factory, but is easily changed in the field. To change it, simply remove the end cap and beam housing assembly and slide the push pad and diffuser insert out of the upper channel. Make sure the switch located on the diode card is in the proper position. (See photograph 18.) Reinstall the push pad and diffuser, right side up, then reattach the beam housing and end cap.



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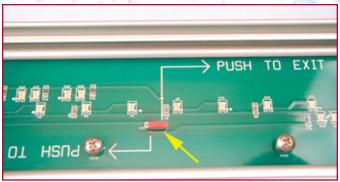
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The handing switch is set to the side where the words "push to exit" are upright.

Did I mention that switch on the diode card? Well, it does make things easy. Instead of having to remove the diode card and flip it over, the flip of a switch does it for you. To make sure the switch is in the right position, look back at *photograph 18*.

You can see the phrase "push to exit" in two places on the card. One is right side up and the other is upside down. Just slide the switch in the direction of the phrase that is right side up. That

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is all it takes.

The next concern in how to get the electrical connections from inside the door, over to the door frame. Again, there is more than one way to do this.

Included with the touch

bar is an armored door cord. (See photograph 19) The idea is to drill a hole in the frame and the door, then pass the 8-conductor wire out of the door hole, through the door cord and into the door frame. This works fine, but does not look as good as it could.

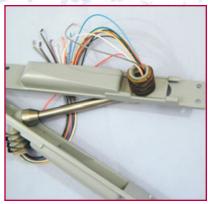


An armored door cord is supplied with the 692.

If you are concerned about looks, the best way to get the wire from the door to the door frame is by using a power transfer device. The Von Duprin EPT10 is perfect for this job.

The EPT10 is designed to be mortised into the edge of the door as well as the frame. (See photograph 20.) It is supplied with a back box for the door and the frame. It even comes with wire connectors. (See photograph 21.)

There are ten, 24 AWG (American wire gauge) wires that are good up to 1 Amp at 24 VDC. The minimum door thickness that is recommended is 1-3/4".



The EPT10 comes assembled and ready to install.



Included with the EPT10 are wire connectors and back boxes for the door and frame.

There are a few limitations because of the design of the EPT10. The EPT cannot be used for:

- 1-1/2" offset pivots (3/4" offset pivots are OK)
- Butt hinges larger than 6"
- Pocket pivots
- Swing clear hinges
- Center hung doors
- Balanced doors.

Aside from the few limitations, this is an excellent way to pass wires from the door to the door frame and keep them hidden at the same time.

Soon we will do the actual installation of these two products as well as all of the other products that were listed in the site evaluation article.

For more information on any of the above products, you can contact Ingersoll-Rand at IR Security & Safety, 111 Congressional Blvd., Suite 200 Carmel, IN 46032 or call then at 317-613-8150. They also have a web site at www.irsecurityandsafety.com.



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Beginner's Corner

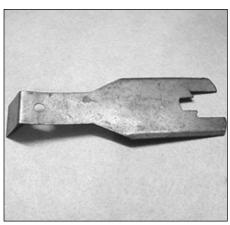
Automotive Service, Part 2



By Ken Holmlund

here are several ways to make keys for the door and trunk of a GM vehicle. My feeling is that everyone needs to know more than one way to accomplish the task since there will be extenuating circumstances in all too many occasions. This article will cover the tools and techniques of making a key by removing the lock from the door.

The first tool needed is a handle and crank removal tool. They are also available from several locksmith manufacturers including HPC



1. Handle and crank removal tool.

model AST-3, and PRO-LOK model LT460. (See photograph 1.) Photograph 2, shows the tool in place to remove the clip holding the door handle and window crank.

A good addition, although not a mandatory tool, is door panel clip removal tool. Several



2. Handle and crank tool in place.

styles are available on the market including the flat bar, like the HPC AST4 or the spreading tool, the PRO-LOK LT410, seen in photograph 3,



3. Trim removal tool spreader.

called the Clip-Zip Door Panel Tool. I like the control I get with the spreading tool and it cuts down on the breakage of the plastic retainers, especially in the cold weather. *Photograph 4*, shows the tool in its proper working location. Be careful when removing the panels as the clips can and will break or fly off to clip heaven, never to be seen again.



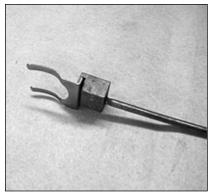
4. Trim removal in action.

With the panel removed, you will be facing a horseshoe type clip that hold the door lock in place. It can be removed by using a pair of pliers but all too often it will fall down into the body of the door and can become a time consuming item to retrieve. Fortunately, several companies make tools for just this problem. One of the most basic is the A-1 model 10 Clip



5. Retainer clip tool.

Retainer Tool. (See photograph 5.) Photograph 6 shows the clip being held by the tool for removal and reinsertion. Keedex makes a series of tools



6. Clip in the retainer clip removal tool.

made to eliminate the problem of stuck clips and believe me, it does happen. Check out their K2 and K3 tools for special applications.



7. GM cylinders.

Photograph 7, is presented here to show a couple of the different types of cams that GM uses to connect the cylinder to the working mechanism in the door. These are easily removed from the door by simply twisting the cylinder and creating a space to allow them to be pulled from the latching mechanism. Be sure to observe how the cylinder comes out to make it easier to replace the lock when putting everything back together later.

The cam is removed from the cylinder by placing a small tool, I use a pick, under the lip of the retainer and lifting it out of the hole. (See photograph 8.) Now you can easily slide the retainer off the post and the



8. Pick under the lip of the retainer on cylinder.

lock is ready to take apart. (See photograph 9.)

With the lock in your hand, you are once again faced with the problem of how to make the key. To make a key for the door lock, it will have to be taken apart and that presents a whole new set of challenges. Number one is how to get the facecap off. If you have replacement caps for the lock in question, I suggest using the PRO-LOK LT450 Facecap Removal



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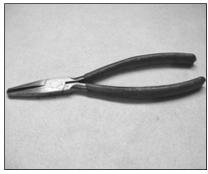
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9. Cylinder with retainer removed.



10. Facecap removal tool.

Pliers, see photograph 10, or the HPC ALCP10 auto lock cap pliers. It is possible to remove most of the caps with just the common everyday tools, but GM used stainless steel caps for a couple of years and if you run into one of them, you will be glad you have the pliers.



11. Removing the cap.

Photograph 11, shows the facecap removal tool in action.

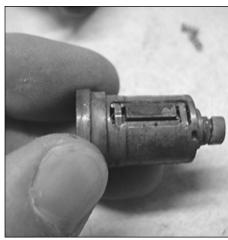
Photograph 12, shows the cap removed, the cap springs, the dust cover and the plug taken from the cylinder. Be



12. Cylinder with the parts removed.

sure to keep close tabs on these parts as all except the cover will be needed to put the lock cylinder back in working order. The springs especially tend to disappear. The dust cover will often be broken and in need of replacement. Be sure to have them on hand, they are included in the OOPS KIT mentioned later.

One additional tool deserving of a good look is the Gator Tool. This tool not only takes off the cap, it enables you to put it back on when you are finished making the key. I will be writing much more about this tool at a later date.



13. The sidebar extended.

After you have removed the plug from the lock, you will have to pick it while placing pressure on the sidebar. (See photograph 13.) This is not difficult and I am assuming you have a set of picks in your

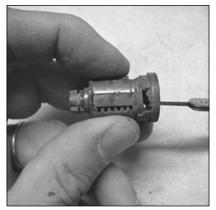




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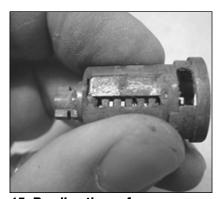
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14. Picking the lock.

toolbox already. *Photograph 14*, shows the plug being picked.

With the lock picked, you will need to be able to read the wafers to determine the cuts of the key. (See photograph 15.)

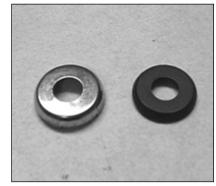


15. Reading the wafers.

You can do this by sight if you have the experience and patience or you can use tools like the HPC GMTD5 or the more sophisticated Keedex K4 GM Decoder or the A-1 GM Decoder.

Anyway you choose, be sure to write the cuts down and make sure what you have read is in line with GM's system of always adding up to an even number and no more than a difference of two between consecutive cuts. Also, no more than three of the same cut will be found consecutively.

Once the working key is determined for the door lock, replacing the facecap is the next hurdle. Since the cap was destroyed when it was removed, a replacement cap will be necessary. You should have several on hand since the same cap works for many years. A black version is available and should be kept in inventory as well. (See photograph 16.)



16. Replacement caps.

To replace the cap, a screwdriver and hammer will work, but a much better tool is available. It is the PRO-LOK 740 Cap Clincher. (See photograph 17.)



17. Facecap clincher.

The Cap Clincher is shown doing its work in *photograph 18*. It works and does not scratch



18. Cylinder in the facecap clincher.

Continued on page 74

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Continued from page 72

the cap. It is primarily intended for GM caps but will fit many others as well.

It has been my experience that there are many pieces and parts to the locks that will either need to be replaced or will just walk off and get lost, so I suggest purchasing the BWD OOPS KIT



19. The oops kit.

model number SK6500. (See photograph 19.) It contains most of the parts you will need to work on the various older model GM vehicles and will be a real time saver for you in the field.

One additional kit you will need is a pinning kit. (See photograph 20.)



20. GM 6-wafer pinning kit.

The older GM vehicles used the same wafers for the ignition, doors and trunk and they are found in the BWD kit model number SK6035. Replacement parts are available for most of the kits on the market so these are a one-time purchase and will serve you well for many years to come.

I think it is worth the time and effort to repeat the GM system for cuts on their keys at this time.

1. The total depths of all the cuts on the key will always be an even number.

- ie. 234434 is a good key, but 233434 is not because the cuts total to 19.
- 2. There will never be a difference of more than two depths between consecutive cuts: ie: 342454 is a good key, but 352455 is not because the difference between 5 and 2 is three, even though both cuts add up to even numbers.
- **3.** There will never be more than 3 consecutive cuts of the same depth.

ie: 333454 is a good key, but 334444 is not although it meets the first two requirements.

All three requirements must be met in order to be an original key for the GM vehicles covered by this article.

Well, we have just about covered the tools needed to make keys for the doors on most older model GM's you will encounter. I will cover more vehicle types next time. The secret to doing auto work is to get the knowledge and then apply it to the job at hand. Common sense is often the most important tool in the toolbox.

Here are the Approximate costs for the tools mentioned and the manufacturer contact information:

manuacturer contact mio	i iiiauoii.
PRO-LOK LT460 Window Crank Tool	\$8.00
HPC AST-3	7 - 7 - 7
Window Clip Tool	\$8.00
HPC AST-4	
Door Panel Tool	\$12.00
PRO-LOK LT410	
Door Panel Tool	\$35.00
PRO-LOK LT450	
Facecap Removal Pliers	\$30.00
A-1 10	
Clip Retainer Tool	\$20.00
HPC ALCP10	
Auto Lock Cap Pliers	\$25.00
Keedex K2	
Clip Removal Tool	\$9.00
Keedex K3	

Clip Removal Tool

PRO-LOK LT740

Cap Clincher

Gator Tool

Cap removal & Replacement \$160.00

BWD SK6500

OOPS Kit \$141.00

BWD SK6035

GM Pinning Kit \$71.00

A-1 Security Mfg. Corp

Phone: 804-359-9003 or 877-725-2121

Fax: 804-359-9415

Email: fmcc@demanda1.com Website: www.demanda1.com

BWD Automotive

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Fax: 334-874-6011

Email: alllock1@alllock.com Website: www.alllock.com

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The Lighter Side



ack in 1998, I wrote an article titled "The Pudding Pants Caper." It was a true story that had to do with a locksmith whose wife left him to watch their baby while she ran out to do a few errands. He was "on call." Naturally, shortly after his wife's vehicle was out of sight, he was summoned into service. Grabbing baby, bottle, diapers, etc., he leaped into action.

As he was driving down the freeway toward his waiting customer, it became obvious to him that his child needed a change. Once this was hastily accomplished and he was continuing on his way, the odor of the unwashed diaper overwhelmed him to the point that he tossed it out the window, aiming it back toward the open bed of his pick-up. However, air currents caught it and plastered it on the windshield of the vehicle behind him. That driver immediately turned on his windshield wipers, and the rest I leave to your vivid imagination, knowing you could concoct nothing more colorful than the truth.

A couple of months ago, I received a letter from Lori Talsky, a locksmith in Ocala, Florida, who is the paternal grandmother of that baby girl. I learned that "little" Hannah Talsky is now eleven years old. (I learned the original story had been told to me several years after it actually took place.) Now,

Hannah occasionally helps her grandmother with locksmithing at Ray the Locksmith's Inc. locksmith business.

Hannah wrote the following (which her grandmother proudly sent to me) and agreed to let me pass it along to you. I edited it only slightly, for clarity:

"Memo on How to Re-Key Locks" by Hannah Talsky

First: Unscrew the screws.

Second: Take off all of the metal outsides.

Third: Get an ice pick. Hold down the lever thing, and twist the flower-bolt-looking thing, then dump out the spring.

Fourth: Push out the place where you enter the key with the black tube, and place it on the tightener things, and shim it.

Fifth: If the pins are not even with each other, then dump and try new ones.

Sixth: Go to the machine behind you (only if you're at Ray the Locksmith's, and if you're sitting where I sat the last time I did this) and position a blank key in the farthest space to the left. Then put the lock full of pins on the farthest to right with a blank key inside. Place the key holder on the key on the farthest to the left. Fasten it down on the shoulder, then turn on the machine, and take the little dog ears and place them over the pins, and pull down the blades as far as you can, and wiggle them a little bit. Keep going until all the pins have been used on the key.

Seventh: See if the key fits.

Eighth: If the key fits, put the lock back together and put it back in the box. Then put it on the counter, get started on the next lock and repeat steps 1-9.

Ninth: If the key doesn't fit, go get grandma!

Now, see! You just never know how taking your kid along with you on the job may influence their future.

I remember once when Don picked up one of our young grandsons and walked him around the store, showing him the graphite coated work benches, the piles of brass filings pooling here and there amid the key machines, the coffee cans of mis-cut keys and dumped pins.

"Just think, Jacob," Don told him proudly, some day, all this will be yours."

It took about three hours and a chocolate ice cream cone to get the little tyke to stop bawling.

We often put our young grandchildren to sorting and matching keys when they come to visit. Depending upon their age at the time, we find it teaches them manual dexterity, keen observation, eve-to-hand coordination and

how to break into our candy vending machine.

You know, there's a saying that there are two kinds of people who work in locksmith shops, those who have turned over a pinning kit and those who haven't—yet!

Need I say, this saying does not pertain only to adults?

We learned the hard way not to leave kids unattended at the workbench. If a pinning kit gets tipped or up-ended, it's highly likely nobody's going to confess. But don't worry. You'll find out soon enough—probably in the midst of a very difficult day when you keep mis-pinning locks because pins have been put back into the pinning kit in all the wrong places.

I remember the time, a few years back, when I was a guest speaker at the New Mexico Locksmith Association's convention. Held at a winter-ski resort at Red River, New Mexico, it followed a laid-back theme. Included in their curricula were some basic classes for children of the attending locksmiths. Some of the pre-teen kids really surprised their instructors, not only with the knowledge they'd already gleaned from watching their parents at work, but at the speed with which they picked up new information. They were zipping through the re-pinning process like speeding bullets, and having the time of their life doing it.

"How come we didn't take a couple of our grand-kids along? It wouldn't hurt for them to learn some of that," Don said.

I couldn't help remembering Jacob's childhood wailing over the prospects of inheriting our business.

"Well," I said, "they do pretty well around here when they come for a couple weeks in the summer. We don't want to chase them away with work, work, work every time we're together. After all, grandparents are supposed to spoil their grandkids. Right?"

"You've done plenty of that for the both of us," Don said, smiling. "Besides, Jacob showed a lot of interest in the business, last summer. Remember when Keith took him up river with him to make a set of keys for a vehicle? He was all smiles and eager to go back up there the next time a call came."

"You know why, don't you?" I asked.

"Because he took great satisfaction in what he'd learned?"

I hated to pop Don's balloon, but somebody had to.

"Because Jacob turned fifteen last year," I said, gently patting his arm. "He was beginning to discover the opposite sex."

"Jacob? He's too young for that," Don sputtered. "Besides, what does that have to do with lock-work?"

"I overheard him telling one of the guys about the 'gorgeous chicks' they'd rescued from disaster. Only, I had the distinct impression he'd been spending most of his time trying to impress the girls, while Keith did all the work."

"Well, you can't expect a kid that age to devote all his time to work. You know the old saying, 'All work and no play...'." Don said. Then his eyes began to twinkle. "Besides, Jacob may be one of those people who loves work so much, he could sit around and watch people do it all day."

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o paraphrase a poet, "No safecracker is an island." Anyone involved in the highly technical world of safe servicing and opening safes in the new millennium must learn to network with other safemen and safewomen. You do not have to become best friends with your competition, but you should be on a talking basis. In the end, this will facilitate both of you.

In this article I am going to thank many people. Name dropping as it were, to let you know how others have affected my attack on this particular safe with an X-08 combination lock. Some will be thanked in general, and others specifically. This will let you know how important communication and networking is in my professional safecracking life.

I received a call from an Army Reserve Captain stating that he had a malfunctioning X-08 combination lock on his "Secret Document" locker made by Hamilton, and that the contents were important and time sensitive. (This was about one month before the War on Iraq started.) He went on to state that he had researched the X-08 lock on the

Internet and had tried the fixes mentioned on the Kaba-Mas website, but nothing seemed to work.

He then proceeded to call several local locksmiths in the area of the Army base, only to be told to call me. At this point, I would like to thank all the locksmiths and safemen in the Northern Illinois area who have recommended my services. Most of my safe work comes from referrals. Whenever I get calls to do general locksmith work in areas other than my home town of Elgin, I refer locksmiths that are closer to the customer. One hand washes the other.

At this point, the Captain that called me knew more about the X-08 lock than I did. I had never worked on one before, and I told him that I would get back to him in a couple of days with a price and the requirements that my company needed to work on the lock, (namely, C.O.D., and no credit cards). We agreed that I would call him the next day and set up a time to open the unit. I needed help fast.

My next stop was to The National Locksmith magazine,

and more specifically to see Greg Mango, my editor. I got a double bonus, for not only did I get to talk to Greg, but I also saw and talked with Rachel Mango, his lovely wife who is the Mid-West Regional Sales Manager for Kaba-Mas. They took me through a short seminal on the Kaba-Mas X-08 combination lock.

I was familiar with the X0-7 combination lock, but had never played with the X-08. One major difference with the X-08 is that the dial is always turned to the right when dialing the combination. This is quite different thant the more traditional L-R-L-R to open procedure. Instead, the X08 was four times right to the first number, three times right to the second number, two times right to the third number, and then right to stop, and hopefully open. There is a digital display on the top of the lock that prompts you through the turning and opening procedures. The last direction is right to open, and the Captain said he got that message consistently, but the lock would not open.

I then asked Rachel to explain the problems with this lock. She stated matter-of- factly that there were no 'problems' with this lock, but there were 'issues.' She further explained that if the issues that came up were found across the United States in all states and locations, then the issue was with the X-08 lock. If the issues were only in a small geographical area, then the issue were most likely with the installation of the lock by a specific GSA manufacturer, or possibly an amalgamation of both, lock and installation issues. Bottom line is that there are questions and issues with the X-08 lock.

Now, there is a new lock to supercede the X-08, and it is labeled the X-09, and it has reverted to the standard Left, Right, Left, and Right to stop dialing procedure. Apparently not many people liked the "all right" way of dialing.

Be that as it may, I then asked how to defeat the locked and uncooperative X-08 for the Army Secret Document File, Greg called Kaba-Mas and had Kane Holmes, the Customer Service Manager e-mail the suggested opening procedure to him. The directions were quite complete and pictures were included. I will include the directions here, but comment on them to make them a little clearer. They did work, and I want to thank Greg and Rachel Mango, and Kane Holmes for their help and encouragement.

Not exactly trusting a single source for information, I wanted

to talk to someone who had actually worked on, and drilled an X-08, and possibly a Hamilton GSA container. For this needed information I talked to my West Coast connections, namely Dave McOmie and Don Spenard. They both wished me luck and told me I would have to use Diamond Core bits to get a hole in the Hamilton safe. Both offered me encouragement and good luck.

Don gave me the drill point measurements that he used. His measurement was 1/4" off the centerline and the factory drill point was 3/16" off the centerline. I will explain this when I make my drilling template. Both would have worked equally well.

Since I was short of Diamond Cores, I called Bob Volosing at StrongArm to order six 1/4" diamond core bits. I only had two in stock, and I was told that I would need more to be successful, or just in case. Bob stated that coring a Hamilton Red Label was one of the most difficult (really hard, hardplate) GSA units to penetrate. Instead of carbide included hardplate, these units have a Stellite welded bead hardplate that was a real problem (sorry, I mean issue) to penetrate. That was putting it mildly.

He also reiterated that core drilling was different than hardplate drilling. You have to use a light pressure and medium RPM for penetration. After coring for three or four minutes, the core bit must be removed and relubed with the included wax like lubricant. Another important point is that the diamond core should be brushed with a wire brush to remove metal and other impurities from the diamond tip. This will make the coring easier and faster, and the bit will last longer. Thank you Bob, Dave, and Don for your advice as well.

I met with the Captain the next afternoon at the Army Base to try some dialing diagnostics before bringing in the big guns. I also had to stall a bit until the diamond cores from California arrived. I tried dialing the lock, but it was almost falling off the container. Captain Smith stated that on the Kaba-Mas Internet page, it suggested hitting the door and trying to align the internal timing magnet to get the lock to open. Apparently when he hammered the door, the hammer hit the lock dial and dial ring several times, and that is why the lock was flopping around the surface of the door. I could not even get the lock to power up.

I submitted my price for the opening, which was payable when I was done. I made the mistake of giving the total price. I should have given the price for opening plus the price of the diamond cores and any other parts that I needed. I did state that this price was for opening only, no repair would be included or done by my company. The Captain

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agreed and said he would need a day to get the price and payment approved. Great, this gave me time to make a drill template for my Mini-Rig from StrongArm.

I now had to make a base template for drilling the X-08 lock. To do this, I used an existing template not part of the Mini-Rig Pro kit. I used a template that I had gotten from Kevin Ruff, also of Washington State. I met him in Seattle when I went to teach with Don and Dave at a locksmith convention there. He gave me a template for drilling an S&G 6120 or 6123 electronic combination lock. This template had the two mounting screw holes for standard S&G dial rings with a 1/2" threaded hole between the screw holes. The tapped hole was for attaching the Mini-Rig holding fixture with a through bolt.

This template was for drilling down the spindle hole and into the 6120 lock to turn the armature. I will discuss this in another article. The plate was 3" by 3" and had enough room to drill other holes for the X-08. (See photograph 1.) I drilled the two dial ring attaching holes and a 1/2" hole between them. I did not thread this hole. The hole was for the remnants of the dial spindle of the X-08. Next, I measured 1-1/2" to the left of this hole, and then up 1/4" off the center line.

At this location, I drilled another hole that I tapped for the 1/2" x 13 through bolt of the StrongArm kit holding fixture.

Perhaps it will be more clear when you see the holding fixture installed on the base template. (See photograph 2.) Again, this is installed on my home safe door. I was not permitted to take any pictures while opening the unit. I was watched by an army Sergeant with a side arm the whole time I was in the EOC (Emergency Operations Center). It was like being in a Tom Clancy Op Center novel. Secret communications,

encrypted fax machines, special orders, etc. A busy, but not to friendly area of operations.

I got my diamond cores and went early the next day to open the unit. It took almost six hours to open. Most of the time was spent drilling through the hard-plate. It was easy to pry off the dial from the X-08 and remove the two dial holding screws. I installed my template and it worked incredibly well. The orientation of most GSA containers



Photograph 1.



Photograph 2.



Photograph 3.

is that the combination lock bolt goes toward the handle. This will tell you how the lock is orientated in any particular container. This is why I made the template the way I did. If the lock was mounted Vertical Down, then I would have had to drill two more dial mounting screws to re-orientate the base plate.

On this Hamilton unit, the handle was to the left of the combination dial on a horizontal plane. The handle was to the left of the lock, and thus the lock was mounted Horizontal Left (HL). After removing the dial and ring, I cut the wires that were coming through the safe door to make the mounting of the base plate clean. There was about 2" of regular steel before I hit the Stellite hardplate welded bead. I drilled a 5/16" hole until I reached the hardplate, and then used a 1/4" diamond core drill to penetrate to the lock itself. This took about five hours of drilling (coring) removal of the bit, cleaning the bit, re-lubing the core, reinstalling, and recoring. It took four diamond cores before I hit the lock. Now, it was time for the directions from Kaba-Mas.

I will record the directions which are for a lock mounted Vertical Down (VD) and put in parenthesis my orientation directions and comments for a lock mounted Horizontal Left.

X-08 Drill Point

(These instructions are for a lock mounted Vertical Down, in terms of directions "right," "left," "up," and "down.")

Drill a 1/4" hole 1-1/2" towards the bolt from dial center and 3/16" left. (See photograph 3.) (Clockwise would be a better word than left, so no matter the orientation, the hole is clockwise from the centerline of the dial spindle towards the bolt.)

This position will put you right on top of the lock slide, with the left edge of the slide on the left hand side of your drilled hole. (See photograph 4.) (My slide worked top to bottom, whereas in this orientation, the slide works left to right.)

Don't worry about drilling into the slide a little; you will not drill all the way through the slide if you are careful. (After coring for many hours, the core bumped a little forward and this meant that I was finally through the hardplate. I looked into the hole and saw the bottom of the lock case. I put in a regular drill bit and with a half turn of the rig, I was through. I saw a hole with a line down the middle. The bottom of the line was the slide and it moved easily up and down).



Photograph 4.



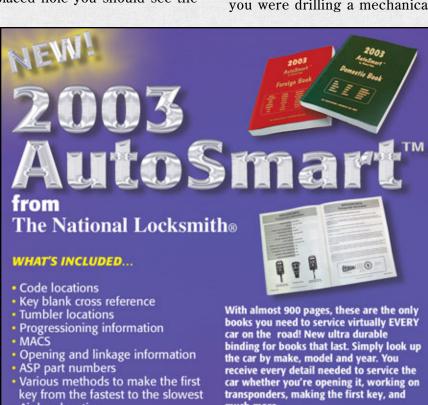
Photograph 5.



Photograph 6.

The slide may end up with a dibble from the tip of your drill bit, but that is okay and will not affect the bypass you are about to use. (See photograph 5.) Now that you have a hole in the lock case and you can see the slide, you can push the slide over to the right (or down) with an ice pick or a small flat screwdriver. (See photograph 6.) You will be able to move the slide easily from here, and with a properly placed hole you should see the left edge of the slide and use this edge to slide it over. (See photograph 7.)

Once the slide is over to the right as far as it will go, put inward pressure on the lock bolt and push up towards dial center. (See photograph 8.) (On a Horizontal Left mounted lock, put inward pressure on the lock bolt and push it right towards the dial spindle) This will move the lock bolt just as you would do if you were drilling a mechanical



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lock using the lever screw and bolt probe method as an attack.

If you have mis-drilled a little and cannot see the left (upper) edge of the slide, do not panic. Just use two probes to move and bind the slide. With a sharp ice pick move the slide a little to the right. Then while holding the slide with pressure, use a second ice pick to put behind, or to the left of the slide edge. This will let you block the slide from going back all the way to the left. Now with just the one ice pick in the hole, continue to move the slide all the way to the right. (Down, in an HL orientation). Once it is all the way to the right, put inward pressure on the bolt and work it up towards dial center.

I found that it was hard to keep the slide down while probing for the bolt, but I found an easy way to keep the slide out of my way. I moved the slide all the way down in my case, and then I turned the remnants of the dial spindle with small vice-grip pliers until the slide locked into the drive cam. While holding the spindle in place, the slide was locked away from the bolt. It was easy then to snap the bolt towards the center of the lock. Since I have only done this once, I am not sure it would work in all applications).

This is a very easy way to open the lock once you have a hole through the hard plate. It will work on the X-08 on all lockout situations, including a stripped stepper motor gear. The old drill point for the gear will not work on a stripped stepper motor gear, but this one will. The only lockout this will not work on is the internal relock being activated. In that case, the relock trigger will have to be drilled first.

These directions from Kaba-Mas sum it up rather nicely. The difficult, hard, tricky, not easy, complicated, complex, intricate, and easier said than done part, is penetrating the hardplate barrier



Photograph 7.

Photograph 8.

materials. That is 95% of the opening. It only takes about five minutes to open the lock, or even less if you have done it before.

Taking your time however, is important when you are using a diamond cores, and lubricating and cleaning the core are most important. Haste makes waste. What did I learn on my first X-08. Charge more and add the cost of the cores and drill bits that are used. Do not set an upper limit or a fixed price. *Photograph 9*, shows the last diamond core bit and the brush I used to clean the cores when relubing.

The Army had a new unit to replace the one I drilled. The Captain said that they would move the safe to another base for repairs and the installation of a new lock. After the opening, I was ushered by guards to the disbursement Colonel's office. He was a rather stuffy character and I thought I would have some fun



Photograph 9.

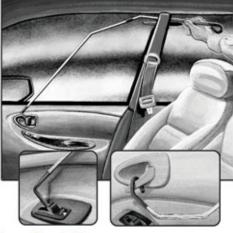
with him. He took out an official Army checkbook and stated that he did not write checks to often. Most subcontractors took credit cards or Purchase Orders. I then stated in uncompromising terms, "In that case, I will need two forms of identification in addition to your driver's license." He had no sense of humor. He started to turn red until I said "Gotcha!"

Lastly I would like to thank the Army, because the check cleared.

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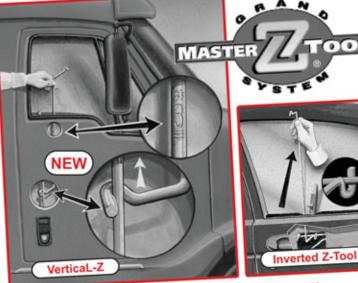


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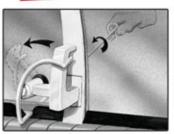


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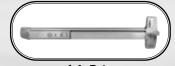
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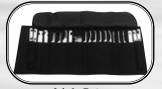


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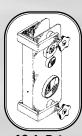
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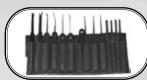


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Tips Start on Next Page



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JET KEY BLANKS WINNER: Credit Card Tip

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I spent a lot of time investigating and with a good amount of determination I finally got what I wanted. Believe me when I say that sales reps will never tell you about this service.

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Since I've been doing this, I've never had a problem. The fee is .4% which is taken out of my checking account at the end of the month on the total credit card sales for that month. Some might think that's a lot. When I add it up, I find I don't do that much in credit cards sales to make up for all those extra charges (monthly fees, machine rentals, transaction fees and such) that I don't have to pay.

If you are interested in such a credit card service, call Merchant Services at: 800-725-1243.

Carol Oar Oregon



WEDGECO KEY EXTRACTOR WINNER: American Padlock Sure Shim Trick:

Anyone who has had to re-key American padlocks; and didn't have an operating key, knows what a chore it is to try and pick or shim those cylinders. The problem, of course, is the

A Few Words From Jake...

Last month, in *Jake's Jabber*, I wrote about the growing potential in electronic access control. This month, I want to dwell on other aspects of our changing trade.

I get a fair number of letters over the course of a year where the writer takes me to task for something that I wrote, or published (either for the Technitips column, or TNL) that they felt was not really locksmith oriented.



by Jake Jakubuwski

Folks will point out to me that they're "not a Jakubuwski carpenter, a welder, a handy-man/women, a salesperson or any of a dozen other trades, or craft person. They emphatically retort that they are "locksmiths." Usually they wind up saying something like: "...and I'm proud of it"

That's good! And, I'm especially glad they have pride in their chosen craft.

There's just one small fly dirtying up the ointment:

Today, being a locksmith is not enough!

Today's locksmith has to wear many hats. Few can run a pro-active, profitable, independent, vibrant and growing business *without* reaching beyond the purely limited concept of locksmithing wherein one only repairs, adjusts, replaces, rekeys, or sells and installs new locks.

There are some exceptions to that. The "part-timer" who is retired and semi-retired and is supplementing their retirement income, or the institutional locksmith that might do *nothing* but work on locks; while the carpenter shop, or machine shop takes care of closers, operators, hinges, panic hardware, kickplates, door viewers and other door service requirements.

However, whether you're a one-person, mobile operation or a multi-truck, multi-location shop with dozens of employees, today's security market *demands* that you not only familiarize yourself with more than just locks, it requires that you explore new avenues of security solutions, to remain in business.

In other words: You must become a problem solver for your customer. Unlocking a car at 2 a.m. is a *valid* service. Filing the strike plate on a doorframe because the hinges are sagging and the door will not latch, isn't! Rekeying a residence for a distraught homeowner after losing their keys is a satisfactory response to any emergency. Failing to point out that the door's hinges are on the exterior and have removable hinge pins is not!

Each of us, especially if we *depend* on our locksmith businesses for our primary income, owes it to ourselves to reach out for work that is already in front of us. If we will just look beyond the lock on the door, or the idea of installing a deadbolt as the ultimate security solution, we will find all sorts of ideas that will make us in-demand-problem-solvers to our customers.

When we open a car at 2 a.m., we need to offer a spare key, or a Hide-A-Key box. When we do a "lock job" we need to look at the total door, not just the lock. We need to take seriously our often self-proclaimed status as security professionals. We need to learn to point out the need for properly hung doors, doors that are in violation of Life Safety codes or the ADA. We need to point out the need for window locks, closers, panic hardware, door operators and passive or active security devices such as door viewers or surveillance cameras.

We need to do all of that: even if it means learning the rudiments of carpentry, electrical work, welding, sheet metal work and, yes, even selling!

The overall security industry is in a state of rapid change. If we don't change with it, we will be finding our "pure" locksmith services in less and less demand.

See v'all next month!

serrations within the lock that prevent easy picking or shimming.

I had a good customer bring me 15 of these padlocks for re-keying, but he did not have a key and when I tried to shim these locks open, I ran into the serrated pins. Which wouldn't allow me to manipulate my shim from the rear of the plug and create a shear line.

I used seven key blanks (1046), and cut a number one depth in the fifty space. On the second key I cut a #2 depth in the fifth space. I continued to cut each depth on a separate key until I had six keys with a different depth (1 through 6) cut in the fifth space.

I inserted the first key with the #1 cut and inserted a shim. The shim would not enter the shear line, so I knew I had the wrong cut in that space. Then I used the #2 key. Same result. The shim passed the fifth space when I used the #4 (cut to a four depth) key.

Leaving the shim in place (remember, I'm shimming from the rear of the cylinder) I set out to determine the depth for the fourth chamber. It turned out to be a number two depth. With each successive cylinder, I kept trying each of my keys until one allowed the shim to pass the shear line for that chamber. The code for the key was revealed to be 4-2-5-4-2.

I cut a key by code on my Blitz, and found that my key now fit the remaining 14 padlocks and I was on to re-keying them.

I stamped each of the keys, # 1, #2, #3, etc. for future use.

Ken Brann Maine



STRATTEC WINNER: WD 40 Works Like A Charm

If you have a customer with an

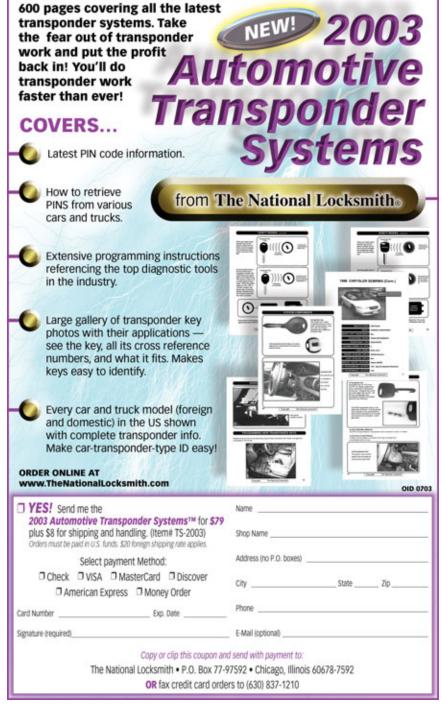
8-cut Ford lock and they

sometimes have a hard time getting the lock to turn, try WD 40.

I had a policeman with a key that would not work the trunk lock. He could open the trunk from the inside of the vehicle, but if that didn't work for some reason, he would be locked out of the trunk. He said the car had sat on the lot for nearly one year before he purchased it and had always used the inside button to open the trunk.

I removed the lock from the trunk and found out the grease was hard and when you put the key in, all the tumblers went up to the highest cut on the key; but did not come back down because of the heavy grease. WD 40 cut the grease and flushed the lock and in no time it was working fine.

Another customer had a 1998 Ford truck with a key that would not work the door lock on the left side. The dealer told



her it would cost \$275.00 to replace the locks. After spraying WD 40 into the lock, all the keys worked fine, and I had a happy customer!

> Donald J. Geesing Texas

Editor's Note: Donald, you'll get no argument from me when it comes to the effects of environmental corrosion and solidified grease being responsible for so many lock ills. And, neither will you get any argument from

me on using WD-40 as a lubricant and lock-flushing agent. I've used WD-40 for nearly seventeen years to lube and flush locks and have always had satisfactory results. I know that there are readers who will disagree with that assessment and argue for their personal favorite. That's okay, too. I'll stick with my WD-40.



HPC WINNER: Nail Down Stripped Allen Screws

If you've ever rekeyed a Medeco mortise

cylinder, I'm sure you've run into a problem with the Allen screws that retain the springs and pins. Often the Allen screw head is stripped and an Allen wrench just spun around in the screw.

Here's a trick that my dad taught me that not only makes removing those stripped Medeco retaining screws easy, it is also an idea that you can use on almost any Allen screw that you find with the hexagon stripped.

With the Medeco, use a #4 cut nail (also known as concrete or cement nails) and grind one end down—on all sides if necessary—until it is just slightly larger than the stripped out portion of the Allen screw. Use a hammer to gently tap the modified cut nail into the Allen screw until it is tightly wedged in the screw. Next, simply use a pair of pliers or Vise-Grip's to turn the nail counter-clockwise until the screw is extracted.

When grinding the cut nail down to wedge into the Allen screw, make sure that the sides of the nail are very close to where they would slide into the opening, but still need to be forced. (See photograph 1.) Make sure you grind enough off the nail to allow it to be forced into the screw without distorting the screw and wedging it against the cylinder threads.

Since the cut nail is hardened, as you gently tap it into the screw it will cut its own channel and tightly grip the sides of the screw.

This idea can work on almost any size Allen screw that might be stripped from over-use or over tightening.

> Michael Maldonado New York

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Photograph 1.



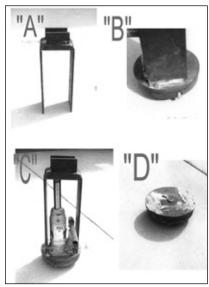
SARGENT & GREENLEAF WINNER: **Pulling a R**G

Pulling a Round Head, In Floor Safe

I had a round C-5 Star liftout safe head that had been badly, but unsuccessfully burglarized. The head of the safe was beaten, the dial was missing and the spindle was beaten in until it was actually swaged in the spindle hole and refused to turn.

Because of the condition of the spindle, I knew that I could not manipulate the wheels and align the gates, nor would I be able to drill a false gate and let the fence drop-in since there was no way to turn the spindle.

Here's how I made this nightmare opening a fast, no headache opening.

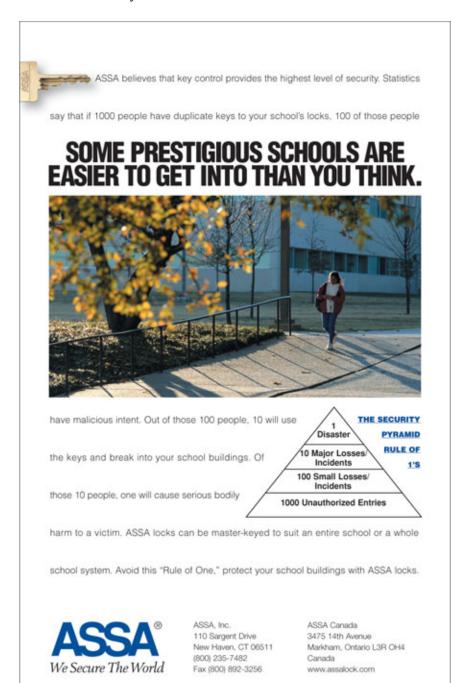


Photograph 2.

About two years ago, I had made a "U" shaped puller for situations just like this, and now I had a chance to christen it. In *photograph 2*, you can see the puller described as "A". The piece of channel iron welded across the top of the puller is to prevent the jack from distorting the top of the puller when I put pressure on it. "B" shows the puller welded to the safe head, and "C" shows the 20-ton jack inserted

under the puller. The only thing not shown here is the piece of steel channel iron that fits under the jack and across the safe's floor tube to give me a base on which to operate my jack and puller.

Once everything was in place, it was a simple matter of pumping up the jack, which pulled the Star head right out of the floor! "D" shows the head after the puller was removed.



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> Bill Wessel California



A-1 SECURITY PRODUCTS WINNER: No-Slip *Impressioning* Pliers

Over the years that I have been in the locksmith business, I have tried a lot of tools for impressioning keys. I have made a number of them, but the pair shown in photograph 3, give me the best results of any tool that I have made for this purpose.



Photograph 3.

I have tried the larger set of ViceGrip's and the smaller. I find the middle size to be the best. With the big set you get too much pressure and with the smaller set you can't get enough pressure.

To make the tool I Photograph 4. take an old worn out flat file and break off about 2 to 3". I clamp the two of pieces in the ViceGrip's and I grind the front part of the broken file to the shape I want. Then I turn those two pieces around, and around, until I have all four sides the shape and smoothness that I want. After grinding and shaping, I place the two pieces face-to-face and clamp them

and weld the file pieces to the ViceGrip.

This gives me a good, sturdy economical set impressioning pliers. Because of the large, flat, toothed file surface, I have never had a key slip in them and neither do they scar up the key blank.

> Ben Marshall CPL Florida

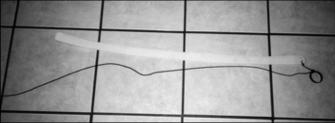


ILCO KEYBLANKS WINNER: Homemade Button Grabber

Here's an easy way to make a Button Grabber opening tool (Loop Tool), from a five-gallon plastic pail. You should be able to find one almost anywhere.

Cut a strip all the way around the pail approximately 1/2" wide. Then cut the ring you now have and open it and straighten it out. Round off the ends, attach some string and a heavy rubber band and you have a Button Grabber that is approximately 34-1/2" long. (See photograph 4.) That's long enough so that it should conveniently reach any button you're trying for.

> Larry Bors Oklahoma



KEEDEX WINNER:

Lockpick Protector and **Promotion Tip**

Shortly after I bought my HPC Electric Lockpick, I found out that carrying it loose in my van was not the trick setup. Especially when I found that the pick looked like a pretzel when it came time for me to use it!



Photograph 5.

Photograph 5, shows the pick protector I came up with. I picked up a piece of PVC 9" long $(1-\frac{1}{2})''$ in diameter) and cut a $\frac{3}{4}$ " slot $4-\frac{1}{2}$ " long. The slot is cut only on one end and one side of the PVC. I deburred the edges of the cutout with my pocketknife and a piece of sandpaper.

> I simply slide my HPC Electro-pick in its "holster" and don't have to worry about the pick being twisted or bent when I have to use it.

Also, in the illustration, you can see a give away key ring. I order these with my shop name and telephone number and give

them to every customer (along with my business card) that we do a job for, along with my business card. I also hand these key rings out to prospective customers that I would like to do work for.

I think they're an effective means of advertising for me.

> Bob LeMaster Mississippi

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Continued from page 92



TECH TRAIN TRAINING VIDEO WINNER:

Hold That Light

After reading several tips on holding lights, I have found a new one. It is a strapon, stick-on, clip-on light that's easy to make.

I use a Mini Mag. and a Steelman Bend a light pro. I bought the NiteIze Headband that had the belt clip that rotates with it. Then I went to a craft center and got a bag of Adams medium suction cups with hooks. I took the wire hook off, and the knob on the end of the cup fits in the large hole of the belt clip holder that will hold my Mag light or the Steelman. The suction cup does not get in the way if I want to use the belt clip in other ways.

I now have a way to hold two lights in different ways that take up no room hardly in my box.

> William Cato, III Arkansas



SIEVEKING PRODUCTS GM E-Z NHEEL PULLER WINNER:

How To Save Money on Door Closers

Every day we replace door closers for our customers. With a little education and thought we can capitalize on manufacturers' warranties.

Most closers carry a five-year or ten-year warranty, which is rarely used. The manufacturer has built these warranty costs into their pricing and expects a certain number of returns.

If you purchase the model of closer you are replacing through your supplier, you can check on the warranty Illustration A.

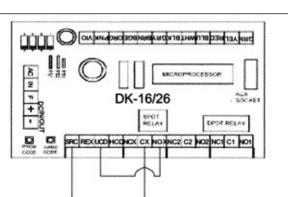
expiration date. With this information you can often return the closer for repair or replacement. As it is too expensive to repair these items you usually receive a new unit in return.

> With a little education and thought we can capitalize on manufacturers' warranties.

Of course, you don't want to abuse your suppliers with product you don't buy from them, but they should be willing to handle anything, within reason, when you show a history of product purchase. If your favorite distributor is reluctant to become involved in the warranty process; check directly with the manufacturer.

By paying attention to details, you can often get a closer back into inventory at no cost. This can represent significant cost savings for you.

> Martin Brown Canada



Wiring a DK-16 or DK-26 for HARD CODE Disable of all User Codes



Securitron Code Lockout Tip

I was installing a Securitron DK26 and a Magnalock for a customer when they asked if there was any way to lock out the user codes after hours so that an employee could not gain entry once the business shut down for the day.

I didn't know, and had not heard of such a feature, so I called Securitron's Tech Support Department, outlined my request and here's what I found out.

It is possible to use Securitron's DK16/DK26 digital keypad's Hard Code function to lock out all user codes. This will allow management to effectively lock out all other users. This function could be used for holidays, snow days, etc. to prevent entry. By entering the Hard Code all user codes will be disabled until the Hard Code is reentered.

The first thing that you must do is wire the Digital Keypad as shown in *illustration A*. (this is in addition to wiring for power, locks, etc). You will then need to program at least one *User Code* and the Hard Code. While in the Program Mode you will also need to press in code "75". Code

"75" will activate the Hard Code Toggle function. Please note that the doorbell function or any other function involving the programmable relay will not be available once the lockout function is programmed.

Illustration courtesy of Securitron, shows how to wire the DK26 to enable a lockout feature.

> Steve Bright North Carolina

Continued from page 94

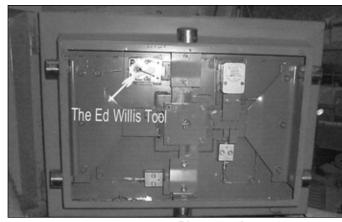


LAGARD WINNER: Opening an Unknown Safe

I recently purchased two of these safes from an auction

house. (See photograph 6.) Both were locked closed. I was unable to find any definite identification in any of our safe publications.

In the photograph notice the keyhole to the right of the dial and above the handle. There were no holes for the screws for the



Photograph 8.

Keyhole, through which olass relocker can be seen

Photograph 6.

key lock cover. When I scoped through the hole I could glass see Without the as a guide, you could actually this hole and touch the glass.

lock, but had no idea if I would

protecting the key lock. key lock cover put a key in

Initially I wanted punch the kev

Arrow points to drill where it penetrated the wall of the safe and into the door.

Photograph 7.

fire some unknown relocker, so I decided to drill a scope hole in the hinge side. This would allow me to go in and see what I was attacking.

I drilled a 3/8" hole on the right side. Materials encountered were steel, concrete, aluminum, and steel.

Photograph 7, shows my drill bit sticking through the hole.

I scoped the key lock and saw that there was no relocker attached to the back cover. At this point I punched the LaGard lock out of the way and the wheels fell into the safe. I used my Ed Willis tool to remove the internal relocker from the key lock.

In photograph 8, notice the Ed Willis tool in the key lock as I fished the lock bolt and relocker out of the way. This was much easier with the scope hole in the side. Had I known, I could have punched the key lock without firing a relocker, and I would not have had to drill a hole in the side. The MP combination lock on this unit could also be punched without firing a relocker.

I was impressed with the body construction and bolt work system and believe these safes are TRTL 30x6, or the equivalent. As you can see the bolt work relockers it was worth drilling the scope hole. It could have also been used to scope and back dial the MP lock, if necessary.

> Mike Griffin South Carolina

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BUSINESS BRIEFS

Bianchi USA

Bianchi USA, Inc., the North American division of Bianchi 1770, has appointed Scott Hinton as Vice President of Sales and Marketing. Hinton is responsible for managing Bianchi 1770's sales, marketing, and operational activities in North America. The Bianchi family has produced



security products in northern Italy since 1770 and has been a leader in key machine design, innovation, and quality for decades.

Keys Wholesale Hardware

Keys Wholesale Hardware has become the first national distributor to handle the entire assortment of KABA ILCO's NFL, NHL, MLB, NBA, and Collegiate Team Keys. Keys are packed 10 per bag and 50 per box. Keys are available KW1 and SC1 keyways.

For more information contact Keys Wholesale Hardware at 800-292-5397.

Yankee Sets October Show Dates

The 25th Annual Yankee Security Conference and Trade Show will be held Oct.



22–26 at the Sturbridge Host Hotel in Sturbridge, MA. Classes will be held Oct. 22–24, followed by a PRP exam on Oct. 25. The tradeshow floor will be open Oct. 25–26.

IR Security & Safety Announces Education Solutions Team

IR Security & Safety has appointed six members to lead its newly formed IR Education Solutions team. The group was formed recently to address the specific needs of the entire educational market, including colleges and universities as well as K-12 school systems.

Heading the initiative is Vice President,
Education Solutions
Beverly Vigue,
AHC/CDC. She is
assisted by Marketing
Manager, Education
Solutions Jana Lasch;
Bruce Reynolds,
Regional DirectorCentral; Felix Mira,
Regional Director-

South; Dom Cottone, Regional Director-East, and Theresa "Terry" Houk, Regional Director-West.

Visonic Group Acquires Elpas

The privately held Visonic Group announced that Visonic Technologies Ltd. has acquired Elpas Local Positioning Systems, a leading provider of automated asset management solutions. The acquisition complements Visonic Technologies Ltd.'s product line, enabling the company to offer a comprehensive security platform for the protection of facilities, assets and individuals.

The Chamberlain Group, Inc. Acquires Automatic Gate Supply

The Chamberlain Group, Inc. has acquired the assets of Automatic Gate Supply (AGS) of Valencia, CA.

AGS is a California based company with over 30 years of experience in solid state and DC motor-controlled swing and slide gate operators. AGS specializes in an extensive range of gate operators, access control systems, as well as gate hardware.

AGS products has an excellent reputation for exceptional quality and durability with models that specifically address the industrial/commercial

market as well as the residential swing and slide gate opener market.

ILA Announces New Certification Program for Institutional Locksmiths

The Institutional Locksmiths' Association has announced its new Institutional Locksmith Certification Program. The Institutional Certification Program (ILCP) is a series of exams that focuses on the unique character of institutional locksmithing.

Marna Wilber joins ASSA ABLOY North America

ASSA ABLOY North America Inc., announced that Marna Wilber has joined the company as Director of Corporate Communications and Public Relations.

Marna brings a wide array of marketing communications experience to ASSA ABLOY from having repositioned Chrysler International with the press and consumers in Argentina and Brazil. Additionally, she developed key customer marketing and event plans for Bestfoods in the US and launched the online news service ABCNEWS.com with local guerrilla marketing tactics. More recently she was the global marketing director for Digital **Convergence Corporation** Ltd, a media convergence company in London.

2002

by John Blankenship PART 2

he 2001 Ducati 900 Monster S4 is the first transponder equipped motorcycle to be sold in the USA. For 2002, all of the Monster models and the ST4S model are transponder equipped. For 2003, all Ducati models are transponder equipped. They use Temic transponders.



This is a 2002 Ducati 748 sport bike. It does not use a transponder, but the gas cap is the same as on the transponder-equipped models. The dealer lost the keys to this bike and I originated a key for it using the gas cap. The procedure for originating a key to this bike and for originating a mechanical key for the transponder-equipped models is very similar.

A close look at the ignition/steering lock shows that it does not have the plastic antenna cover that surrounds the transponder-equipped models. Note: Older Monster models have a plastic ignition lock cover but it does not look like the antenna cover on the transponder-equipped models.

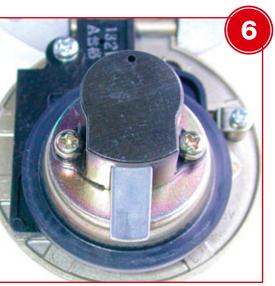


This view from the drivers seat shows the ignition/steering lock located immediately in front of the gas tank and the gas cap located on top of the gas tank.

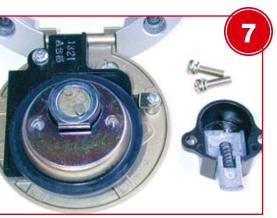




Pick the gas cap lock 90 degrees clockwise to open it. You are picking against spring pressure so have a small screwdriver ready to finish turning the plug. This one was a little stubborn but I managed to rake it open in about two minutes. Lubing the lock can help if it resists picking.



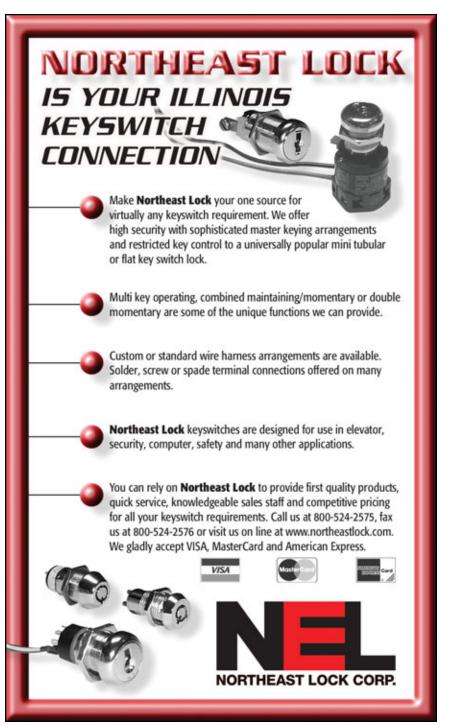
Remove the two Phillips screws on the bottom of the cap and remove the locking bolt housing.



The locking bolt housing has been removed along with the locking bolt and spring. I used grease to hold the locking bolt and spring in the housing when I turned it over to reinstall it.

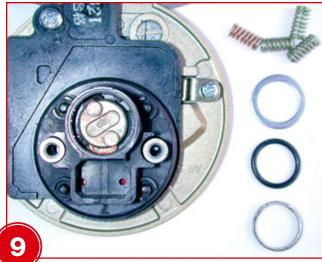


any fun to retrieve them. Three of the five mounting-ring bolts have been removed with a 4mm hex key; the other two bolts do not have to be removed. The hex key is shown in a fourth bolt that has to be removed, then you can take the gas cap assembly to a workbench.





The backing plate and gasket ring have been removed. Place the four compression springs in a safe place and remove the washer from around the back of the plug.



The springs and washer have been removed.
Then a dental pick was used to remove the O-ring that was under the washer. Finally, the gas cap was turned over to allow the bushing to fall out from around the plug. Now the retainer can be seen on the bottom side of the plug. Depress it and push the plug out the front while being careful not to spill any wafers.

The gas cap contains five wafer tumblers and a retaining wafer. A blank inserted into the plug shows that the cuts for the last five spaces are 44342. Notice that the key is tip stopped in this lock. On non-transponder models, the five wafers are in spaces 2-6. After you cut a key that turns the gas cap lock smoothly, just progress the first space in the ignition lock to obtain a working key.

On transponder models, the five wafers are in spaces 3-7. After you cut a key that turns the gas cap lock smoothly, progression spaces 1-2 in the ignition lock to obtain a mechanical key.

1st Key Try: 11, 12, 22, 23, 33, 34, 44; 2nd Key Try: 21, 31, 32, 42, 43; 3rd Key Try: 13, 14, 24; 4th Key Try: 4: 41



For this non-transponder model, a code cut Silca KW14P key with cuts of 244342 works all three locks on this 748 model. The codes are direct read tip to bow so the code for this key is B243442.

For this transponder model, a mechanical key is cut on a Silca KW15BP blank that has been shortened to 1.063" (27mm) from shoulder to tip. I duplicated the original transponder blank to shorten it. You can also use a KW15BP blank as a pattern if you clamp it into the vise with the shoulder .059" (1.5mm) from the shoulder stop. Then duplicate the tip onto another KW15BP blank, but do not duplicate the shoulders. The transponder blank is .039" (1mm)

longer than the KW14P so they just moved the spacing .039" (1mm) farther from the shoulders to maintain the same last space to tip distance of .217" (5.5mm). That way the same tip-stopped gas cap can be used on all models. This key was code cut using hypothetical cuts of 23 in the first two spaces so the cuts are 2344342.



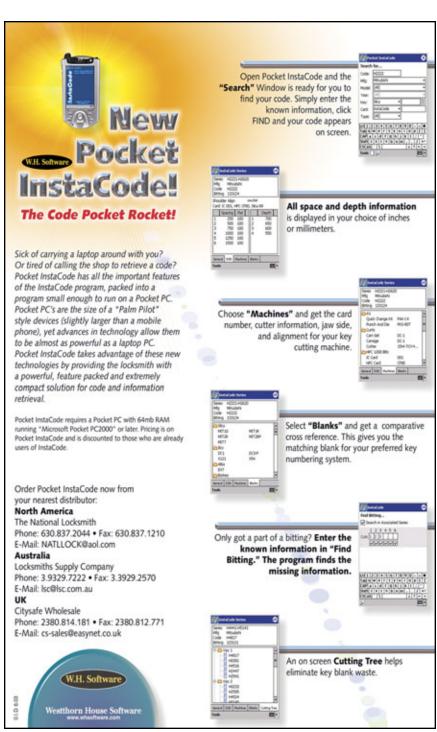
The seat lock on the Monster models is located on the right side near the back of the frame. It turns clockwise against spring pressure to open the seat latch. A spring will return it to the locked position when you release it. It is tipstopped and has wafer tumblers in spaces 4-7. If you obtain these cuts, you can progression space 3 in the gas cap and then progression spaces 1-2 in the ignition lock. Reading the height of the wafers in the keyway using an otoscope is a good way to obtain the cuts.



This is the back of the Monster seat lock. It appears that you can remove the two small Phillips screws that hold the tailpiece on and push the plug out the front. If need be, you can also remove the two mounting bolts with a hex key and/or remove the large nut that holds the lock in the mount. The seat latch cable is attached to the tailpiece and is removed by aligning the cable with the slot and pulling it out.



The seat lock on the ST4S is located on the back of the tail section just above the taillight. It most likely has wafer tumblers in spaces 4-7. If you obtain these cuts, you can progression space 3 in the gas cap and then progression spaces 1-2 in the ignition lock. Reading the height of the wafers in the keyway using an otoscope is a good way to obtain the cuts.





The seat lock on the 748 model is located on the left side of the motorcycle and below the seat. It turns clockwise against spring pressure to open the seat latch. The spring will return it to the locked position when you release it. This lock contains four wafer tumblers in spaces 3-6. I was able to read the height of the wafers using an otoscope equipped with a wafer reader; the cuts for the last four spaces are 4342. Once you cut a key to turn the seat lock smoothly, progression space 2 in the gas cap and then progression space 1 in the ignition lock.



The seat lock is held on by a large nut. The tailpiece is held on by two small Phillips screws. There is very little room to work without removing the rear shock absorber so this lock is not easy to remove.



This is the instrument panel on the 2003
Multistrada models. It has a tachometer with the
display window on the left. The immobilizer light is
located under the number 8 on the tachometer; it has
a silhouette of a key over it. The EOBD warning light
is located under the display window and on the right.



The seat latch releases the whole tail section with the seat attached. Pivot it up and all the way forward and it will stay in place.

2003 Ducati Models



The 2003 International Motorcycle Show came along just in time to include some details on some of the new Ducati models. The 2003 ST4S and Monster models are basically the same as the 2002 models featured in this article.

This is the instrument panel on the 2003, 999 and 749 models. It has a tachometer with the display window under it. The immobilizer light is located in the triangle above the tachometer. The EOBD warning light is located on the left near the 9 on the tachometer.



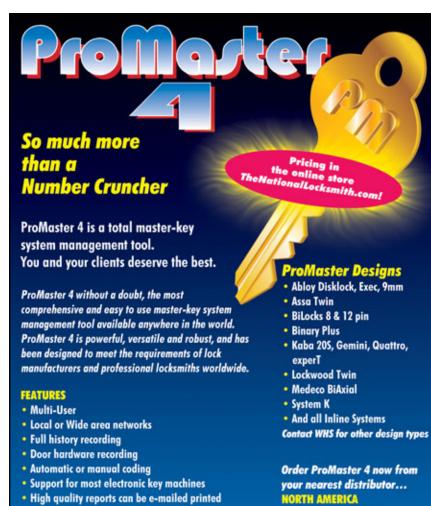
The 2003 ignition lock cover is a little different than on the 2002 models, but it is obvious that there is room for the antenna that surrounds the face of the lock.

2001 Programming Procedure

- 1. Mechanically duplicate the red key onto the black transponder blanks.
- 2. Insert the red key into the ignition lock and wait at least 30 seconds before continuing with the programming procedure. Whenever one of the transponder keys is inserted into the ignition lock, keep the other transponder keys well away from the ignition lock to keep them from interfering with the programming procedure.
- 3. Turn the ignition ON with the red key and the immobilizer light will light up briefly and then go out. Turn the ignition OFF within one second after the immobilizer light goes out.
- 4. Within 15 seconds, remove the red key, insert a black key, and turn the ignition ON. The immobilizer light will light up briefly and then go out. Turn the ignition OFF within one second after the immobilizer light goes out.
- 5. Within 15 seconds, remove the black key, insert another black key, and turn the ignition ON. The immobilizer light will light up briefly and then go out. Turn the ignition OFF within one second after the immobilizer light goes out.
- 6. Repeat the procedure for any additional black keys you wish to program; maximum of eight.
- 7. Within 15 seconds, remove the last black key, insert the red key, and turn the ignition ON. The immobilizer light will light up briefly and then go out. Turn the ignition OFF within one second after the immobilizer light goes out.
- 8. Wait at least 30 seconds before attempting to start the engine with a programmed black key.



The gas cap is different on the 2003, 999, 749 and Multistrada models, but it probably still contains wafer tumblers in spaces 3-7.



Import and export systems individually

- Import data from other master keying software
- Import systems directly from lock manufacturers
- Support for multiple databases
- Support for multi-profile systems
- Comprehensive instruction manual
- Unlimited master-key system size
- Supported locally in most countries or contact WHS direct

W.H. Software Westthorn House Software

The National Locksmith Phone: 630.837.2044 Fax: 630.837.1210 E-mail: NATLLOCK@aol.com

Locksmiths Supply Company Phone: (3) 9329 7222 Fax: (3) 3929 2570 E-mail: lsc@lsc.com.au

Citysafe Wholesale Phone (2380) 814 181 Fax: (2380) 812 771 E-mail: cs-sales@easynet.co.uk

2002+ Programming Procedure __

- 1. Mechanically duplicate the red key onto the black transponder blanks.
- 2. Insert the red key into the ignition lock and wait at least 30 seconds before continuing with the programming procedure. Whenever one of the transponder keys is inserted into the ignition lock, keep the other transponder keys well away from the ignition lock to keep them from interfering with the programming procedure.
- 3. Turn the ignition ON with the red key and look at the display window. The display will show how many keys have been inserted into the ignition lock since you began the programming procedure (1) and a counter that counts down from 30 to 0. Turn the ignition OFF when the counter is anywhere between 29 and 1. It takes about 3 seconds for the counter to count down from 30 to 0.
- 4. Within 15 seconds, remove the red key, insert a black key, and turn the ignition ON. The display will show how many keys you have inserted so far (2) and a counter that counts down from 30 to 0. Turn the ignition OFF when the counter is anywhere between 29 and 1.
- 5. Within 15 seconds, remove the black key, insert another black key and turn the ignition ON. The display will show how many keys you have inserted so far (3) and a counter that counts down from 30 to 0. Turn the ignition OFF when the counter is anywhere between 29 and 1.
- 6. Repeat the procedure for any additional black keys you wish to program; maximum of eight.
- 7. Within 15 seconds, remove the last black key, insert the red key, and turn the ignition ON. The display will show how many keys you have inserted so far (4, if only 2 black keys were programmed) and a counter that counts down from 30 to 0. Turn the ignition OFF when the counter is anywhere between 29 and 1. The security light will flash to indicate that the programming was successful.
- 8. Wait at least 30 seconds before attempting to start the engine with a programmed black key.

Note: If the word OFF appears in the display during the programming procedure, the programming was aborted and you will need to start over.

Immobilizer Bypass Procedure -

Note #1: I will use the electronic code **78575** pulled from the code card shown in *photograph 12* in this procedure. The numbers in bold print that are underlined with an * (example *7) in these procedure instructions must be replaced with the correct number from the electronic code card for the motorcycle you are working on.

Note #2: The ST4S model does not have an obvious EOBD warning light. Look in the display window to count the flashes.

Note #3: If the warning light flashes 20 times and then goes off during this procedure, it means that you must turn the ignition OFF and start the procedure over again.

- 1. Use a key to turn the ignition ON. The immobilizer light will be flashing, the warning light will be on, and the starter button will not operate. The oil pressure and neutral lights should also be on; make sure the transmission is in neutral.
- 2. Fully open the throttle by twisting the right handgrip counterclockwise until it stops. The warning light should go off after 8 seconds.

- 3. Release the throttle as soon the warning light goes off. The warning light will begin flashing. Count the flashes until it flashes *7 times and then fully open the throttle. The warning light should turn on for 4 seconds and then go off.
- 4. Release the throttle as soon the warning light goes off. The warning light will begin flashing. Count the flashes until it flashes *8 times and then fully open the throttle. The warning light should turn on for 4 seconds and then go off.
- 5. Release the throttle as soon as the warning light goes off. The warning light will begin flashing. Count the flashes until it flashes <u>*5</u> times and then fully open the throttle. The warning light should turn on for 4 seconds and then go off.
- 6. Release the throttle as soon the warning light goes off. The warning light will begin flashing. Count the flashes until it flashes *7 times and then fully open the throttle. The warning light should turn on for 4 seconds and then go off.
- 7. Release the throttle as soon the warning light goes off. The warning light will begin flashing. Count the flashes until it flashes *5 times and then fully open the throttle. The warning light should turn on for 4 seconds and then go off.
- 8. Release the throttle as soon the warning light goes off. The warning light will begin flashing twice as fast to indicate that the immobilizer has been disabled. After 4 seconds the warning light should go off.
- 9. Push the starter button and the engine should start. This procedure must be repeated every time the key is turned OFF.

Non-Transponder Model Spec Info

Codes: B111111-B444444 direct read tip to bow.

Blank: Ilco KW14, Curtis KA18, Silca KW14 / KW14P

Spacing: 1=.315, 2=.413, 3=.512, 4=.610, 5=.709,

6 = .807

Depths: 1=.295, 2=.276, 3=.256, 4=.236

Card Number: CMC51

DSD Number: 421

ITL Number: 260

Curtis: KA-1 cam & KA-1D carriage

Tumbler Locations:

Ignition: 1-6 Gas: 2-6 Seat: 3-6

Transponder Model Spec Info

Blank: Original Ducati Transponder: Part #59840161A

Spacing: 1=.256, 2=.354, 3=.453, 4=.551, 5=.650, 6=.748,

7=.846

Depths: 1=.295, 2=.276, 3=.256, 4=.236

Tumbler Locations:

Ignition: 1-7 Gas: 3-7 Seat: 4-7 Taking Industry Products for a...

TEST DRIVE

Mortise Cylinder Tap & Die Set

by HPC, Inc.



THE NEED

When mortise cylinders and lock cases are new they screw together without a problem. Most of the locks that we find using a mortise cylinder are storefront locks and often these do not line up very well. As a result, the cylinders can be screwed in crooked, or someone may force the cylinder out of the lock without loosening the setscrew. Sometimes the backset of the lock is incorrect and the cylinder has to be forced out or in.

The consequences of any of these actions are the same—bad threads in the lock case, the cylinder, or both. The threads may be stripped or crooked, but either way, the cylinder will not screw into the lock body the way it should. Sure, you can force them back in like they were, or you can try to correct the starting threads with a pippin file, but there is a better answer to this common question.

THE TOOL

The answer is the HPC MORTISE CYLINDER LOCK TAP & DIE SET, model number CLTD-5. It was designed to repair this type of damage. The tap can easily be threaded into the stripped or crooked lock case, cutting new usable threads into an otherwise ruined lock, and as you know, these locks are not cheap.

The holding fixture secures a stripped out mortise cylinder in your vise while you use the die to repair the threads. How many times have you found threads on a cylinder crooked or stripped beyond a useable state? Haven't you even found them crooked out of the box from the manufacturer? I know I have, and I am thankful for the tap & die set every time it happens.

USING THE TOOL

Since the threads of the tap & die both match the threads of the mortise cylinder and the lock body, the only part you have to be concerned with is starting straight with the tool. This may take a little practice, but I am sure you will get the hang of it quickly since once you have the tool started correctly it will turn very easily.

As with any tap and die, you will want to turn the tool backwards every once in a while so as to release any trapped cuttings. Turning the tool is facilitated by the handle each tool has built into it. One word of caution: Since the tool is quite large and the handle gives you a lot of torque, be careful not to assume you have the threads straight and really put the pressure on. When everything is correct, the tool will turn easily.

It is a good idea to run the tool through both sides of the lock body while you are at it. That will save you

IN SUMMARY:

DESCRIPTION: Tap and Die set for mortise cylinders and lock cases with a holding fixture and metal storage box.

PRICE: Complete **S**et Model CLTD-5: \$154.25

Tap Only Model CLT-4: \$73.00

Die and Holding Fixture Only Model CLD-6: \$69.00

COMMENTS: An excellent quality tool with practical applications for any shop doing storefront lock work.

TEST DRIVE RESULTS: A tool that does the job it was manufactured to do. A must have tool for busy lock shops.

time later when you go to put the cylinder back into the door. If one side has been fouled up, the other side may need attention as well.

GETTING THE TOOL

The model CLTD-5 is the complete unit with both the tap, die and holding fixture. It comes in a metal box that is handy for keeping the tools in place. The tool also comes in separate pieces. The Cylinder Re-Threading Die and Holding Fixture is model CLD-6. The Lock case Re-Tapping Tap is model CLT-4.

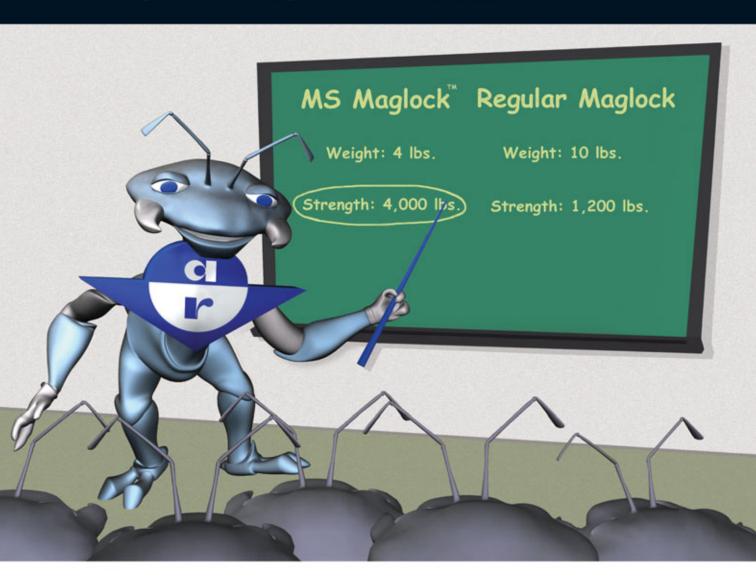
My experience tells me that both pieces will be used about equally, and I would suggest getting the full set when you make the purchase. The tool is available from most distributors, but if you would like more info, contact HPC at:

HPC Inc.

3999 N 25th Ave Schiller Park, IL 60176 **800:** 800-323-3295

Phone: 847-671-6280
Fax: 847-671-6343
E-mail: hpc@hpcworld.com
Web: www.hpcworld.com

Lesson #2 Lighter Weight = Easier Installation



Incredibly Light. The MS Maglock™ looks

innocent enough. It weighs in at only 4 pounds and is about the size of a 600 pound rated maglock. But don't let the light weight and small size fool you. With an incredible 4,000 pounds of holding force, the MS Maglock is the toughest lock on the market.

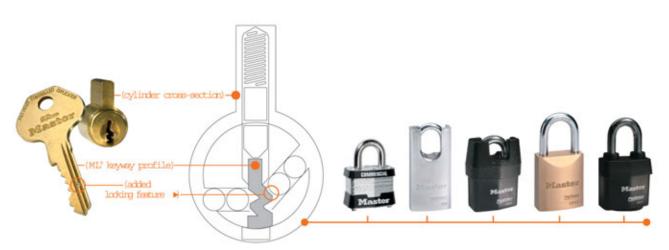
The unique design incorporates mechanical steel mandibles that clamp the armature in the event of a forced entry attempt; providing the extra strength. It's also a breeze to install compared to big, heavy maglocks several times its weight. Need more? Contact Adams Rite for the MS Maglock at 800 87-ADAMS.



www.adamsrite.com/ant12



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Key control. Everyone wants it, but not everyone can afford it. Until now. Master Lock's ML® system makes key control security a cost-effective possibility for virtually any business, thanks to an innovative added cylinder locking feature. And with its proprietary, restricted key blank designs, Master Lock's ML® system prevents unauthorized personnel from obtaining keys. Plus the ML® cylinder fits into almost any Master Lock padlock. Now you can offer greater security to your commercial customers, and lock them in to repeat sales from you. For more information, contact your participating Master Lock distributor or log on to www.masterlock.com, or call us at 1-800-308-9242.



